RESPONSE ACTION WORK PLAN

REVISION 3.0

LIBBY ASBESTOS SITE
LIBBY, MONTANA
June 2011

Prepared for:

ENVIRONMENTAL PROTECTION AGENCY REGION 8

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LIST OF ABBREVIATIONS

ACM	Asbestos Containing Material
ACS	Asbestos Contaminated Soil
APP	Accident Prevention Plan
ASTM	Association Society of Testing Material
ARM	Administrative Rules of Montana
AHA	Activity Hazard Analysis
BGS	Below Ground Surface
BNSF	Burlington Northern Santa Fe
BZ	Breathing Zone
CIC	Community Involvement Coordinator
CDM	Camp, Dresser, and McKee Federal Projects
CFR	Code of Federal Regulations
CMT	Construction Management Team
CRZ	Contamination Reduction Zone
CSS	Contaminant Screening Studies
DI	Detailed Investigation
DOT	Department of Transportation
DCOM	Daily Close-out Meeting
DQCR	Daily Quality Control Report
EPA	U. S. Environmental Protection Agency Region 8
ERS	Environmental Resource Specialists
GPI	General Property Investigation
GRZ	Geographic Removal Zones
HAZWOPR	Hazardous Waste Operations
HEPA	High Efficiency Particulate Air
HOH	Head of Household
HVAC	Heating, Ventilation and Air Conditioning
lAG	Interagency Agreement
LA	Libby Amphibole
LACS	Libby Amphibole Contaminated Soil
Landfill	Lincoln County Class 4 Asbestos Landfill
LO/TO	Lock-out/Tag-out
MCA	Montana Code Annotated

LIST OF ABBREVIATIONS (cont.)

MDEQ	Montana Department of Environmental Quality
Mine	Former W.R. Grace Rainy Creek Mine Site
NESHAP	National Emissions Standard for Hazardous Air Pollutants
NPE	Negative Pressure Enclosure
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PAPR	Powered Air-purifying Respirator
PCC	Property Completion Checklist
PCT	Property Coordination Team
POC	Property Operations Coordinator
PPE	Personal Protective Equipment
PRE	Preparatory Removal Evaluation
QA	Quality Assurance
QAR	Quality Assurance Report
QC	Quality Control
QR SOW	ERS Quick Response Statement of Work
RAWP	Response Action Work Plan Revision 3.0
RAC	EPA Response Action Contract
RC	Removal Contractor
ROW	Right-of-Way
RPM	EPA Response Project Manager
RRA	Removal and Restoration Agreement
RCD	Removal Contractor Database
RDI	Removal Design Investigation Sampling and Analysis Plan
ROC	Record of Communication
SHSO	Site Health and Safety Officer
SI	Screening Investigation
Site	Libby Asbestos Superfund Site
SOP	Standard Operating Procedure
STEL	Short-term Exposure Limit
TAPE	Troy Asbestos Property Evaluations
TEM	Transmission Electron Microscopy
TOAD	Troy Owner Access Database
TPIC	Third Party Independent Contractor

LIST OF ABBREVIATIONS (cont.)

TQA	Third Party Quality Assurance
TWA	Time Weight Average
UA	Use Areas (e.g. SUA, CUA, LUA, etc.)
USACE	United States Army Corps of Engineers Rapid Response Program
Volpe	US Department of Transportation John A. Volpe Center
VV	Visible Vermiculite
WSR	Waste Shipment Record

1.0 Introduction

The purpose of the Response Action Work Plan (RAWP) is to provide the step-by-step process for removing sources and possible sources of Libby Amphibole asbestos (LA) from residences and businesses within the boundaries of the Libby Asbestos Superfund Site (Site) once they are identified at levels exceeding current action levels. Other guidance documents exist on this site and will be utilized via reference in the RAWP and as stand-alone standard operating procedures (SOPs) or criteria documents.

The Libby Asbestos Superfund Site is managed by the US Environmental Protection Agency (EPA) with field execution and site management conducted by the US Army Corps of Engineers Rapid Response Program (USACE) through an Interagency Agreement (IAC). Two principal contractors will be utilized for site work under the current removal action implementation process: the Removal Contractor (RC) and the Third-party Independent Contractor (TPIC). The RC is responsible for implementing removal, transportation and disposal activities as described in this RAWP as well as in site-specific removal plans. The Third Party Independent Contractor is responsible for independent Third Party Quality Assurance (TQA) inspection of removal and restoration performed by the RC. Other site tasks will be divided among the Property Coordination Team (PCT), the Design Team, the Sample Coordination Team, Investigation Team, Environmental Resource Specialist (ERS) Team, and the Construction Management Team, as outlined in this plan. Members of those teams will be drawn from the RC and the TPIC as appropriate based on staffing levels and experience.

Additionally, EPA has directly contracted CDM Federal Programs Corporation (CDM) to perform investigations, ERS, and other tasks utilizing the EPA Remedial Action Contract. Both of these tasks have a direct effect on the removal process and will be referenced in this plan.

OU7 is managed primarily by the Montana Department of Environmental Quality (MDEQ). All activities in OU7 will be coordinated with MDEQ.

1.1 Modification to the Response Action Work Plan

This plan is intended to be a living document. As process changes that increase the efficiency and efficacy of the project are agreed upon by EPA and USACE, these changes will be incorporated into this plan. Changes will be documented in the RAWP Modification form and will become part of Appendix B. When this plan is modified,

official copies of the Modification form will be distributed to EPA, USACE, the TPIC and the RC.

Any one-time deviation from this document will require a signed change order from a USACE representative.

1.2 Background and History

Vermiculite was discovered 7 miles northeast of Libby, Montana in 1881 by gold miners. In the early 1920s, Mr. Edward Alley began initial mining operations on the vermiculite ore body located approximately 7 miles northeast of Libby. Full-scale operations began later that decade under the name of the Universal Zonolite Insulation Company. This ore body contains a solid solution series of amphibole asbestos fibers with compositions including tremolite, actinolite, richterite, and winchite (herein referred to as LA). Unlike chrysotile asbestos, LA was not used commercially on a wide scale. During the mine's operation, while vermiculite was used in a variety of products (including insulation and construction materials, as a carrier for fertilizer and other agricultural chemicals, and as a soil conditioner), LA was considered a byproduct of little or no value.

The vermiculite ore was mined using standard strip mining techniques and conventional mining equipment. The ore was then processed in an onsite dry mill to remove waste rock and overburden material. Once processed, the ore was transported from the mine to the former screening plant, where the ore was sorted into five size ranges. After the sorting process, the material was shipped to various locations across the United States, for either direct inclusion in products or for "expansion" prior to use in products. Expansion (also known as "exfoliation" or "popping") was accomplished by heating the ore, usually in a dry kiln, to approximately 2,000 degrees Fahrenheit. This process explosively vaporizes the water contained within the phyllosilicate structure causing the vermiculite to expand by a factor of 10 to 15. This produces the vermiculite material most commonly sold as a soil amendment for gardens and greenhouses.

1.2.1. Former LA Operations in Libby

In Libby, operations handling this material occurred at four main locations: the mine and mill located on Rainy Creek Road on top of Zonolite Mountain; the former screening plant and railroad loading station located at the intersection of Highway 37 and Rainy Creek Road and directly across the Kootenai River, respectively; the former expansion/export plant (the former export plant) located immediately west of Highway

37 where it crosses the Kootenai River; and at the former expansion plant located at the end of Lincoln Road, near 5th Street. The Lincoln Road Expansion Plant went offline sometime in the early 1950s. In 1963, W.R. Grace purchased Zonolite and continued vermiculite mining operations in a similar fashion. In 1975, a wet milling process was added that operated in tandem with the dry mill until the dry mill was taken offline in 1985. The wet milling process was added to reduce dust generation of the milling process. Expansion operations at the former W. R. Grace export plant ceased in Libby sometime prior to 1981, although the area was still used to bag and export milled ore until mining operations were stopped in 1990. Before the mine closed in 1990, Libby produced about 80 percent of the world's supply of vermiculite.

1.2.2. EPA Activities

Since 1999, EPA has been conducting sampling and cleanup activities to address highly contaminated areas in the Libby Valley. The EPA inspection was initiated in response to media articles, which detailed extensive asbestos-related health problems in the Libby population. While at first the situation was thought limited to those with direct or indirect occupational exposures, it soon became clear that there were multiple exposure pathways and many persons with no link to mining-related activities were affected.

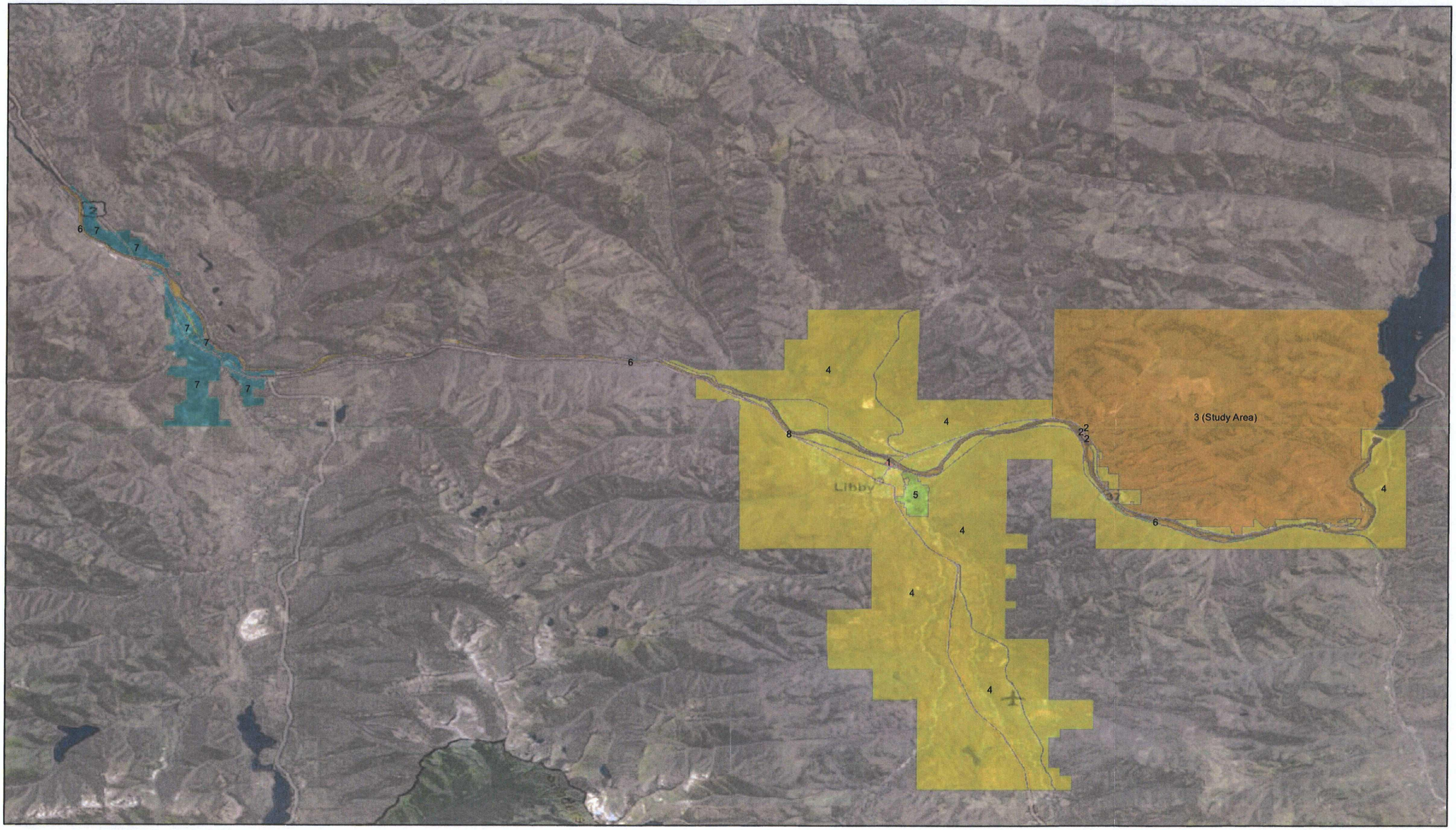
Typically, the LA contamination found in the Libby Valley comes from one or some combination of "primary" sources: vermiculite mining wastes, vermiculite ores, vermiculite processing wastes, bulk residuals from vermiculite processing, "LA-containing rocks," or LA-containing vermiculite insulation. Asbestos from these primary sources has been found in interior building dust samples and local soils, which in turn act as secondary sources. To date, EPA's goal has been to find and identify areas with elevated levels of LA (the primary sources) and to remove them. EPA has conducted removal of Asbestos Containing Soil (ACS) at the former export plant location, the former screening plant and adjacent properties, and residential properties with LA source materials present. Removal actions have also been performed at three schools in Libby. Cleanup work in Libby is ongoing and includes the removal of LA-containing media that include: vermiculite-containing materials (including vermiculite insulation and building materials with vermiculite additives), soil, and dust from residential, commercial, and industrial properties.

The vermiculite encountered in structures is typically found in attics and exterior walls where it was used for insulation. In some cases, vermiculite insulation is found in interior

and exterior walls due to sifting from the attic. In rare cases, vermiculite is found as an additive in building materials such as plaster, mortar, and concrete. The LA-contaminated soil encountered is generally due to vermiculite used as a soil amendment in flowerbeds and gardens, for leveling of low spots, and for backfilling of utility trenches.

The Site has been divided by the EPA into 8 Operable Units (OU) to facilitate clean-up activities as follows:

- **OU1.** The fonner Export Plant is situated on the south side of the Kootenai River, just north of the downtown area of the City of Libby, Montana. OU1 includes the embankments of Highway 37, the former Export Plant, and Riverside Park. The property is bounded by the Kootenai River on the north, Montana Highway 37 (forthwith referred to as Highway 37) on the east, the Burlington Northem Santa Fe (BNSF) railroad thoroughfare on the south, and State of Montana property on the west;
- **OU2.** OU2 includes areas impacted by contamination released from the fonner Screening Plant. These areas include the former Screening Plant (Subarea 1), the Flyway property (Subarea 2), a privately-owned property (Subarea 3), and the Rainy Creek Road Frontage and Highway 37 right-of-way (ROW) adjacent to Rainy Creek Road (Subarea 4);
- OU3. The mine OU includes the former vermiculite mine and the geographic area (including ponds) surrounding the former vermiculite mine that has been impacted by releases from the mine, including Rainy Creek and the Kootenai River. Rainy Creek Road is also included in OU3. The geographic area of OU3 is based primarily upon the extent of contamination associated with releases from the former vermicuhte mine;
- **OU4.** OU4 is defined as residential, commercial, industrial (not associated with former W.R. Grace Company operations), and public properties, including schools and parks in and around the City of Libby, or those that have received material from the mine not associated with Grace operations. OU4 includes only those properties not included in other OUs. Removal activities conducted adjacent or within state and local ROWs as part of an OU4 removal are documented in accordance with subsection 3.4.7;
- **OU5. OU5** includes all properties that were part of the former Stimson Lumber Mill and that are now owned and managed by the Kootenai Business Park Industrial Authority.
- **OU6.** The rail yard owned and operated by BNSF is defined geographically by the BNSF property boundaries and extent of contamination associated with BNSF rail operation. Railroad transportation corridors are also included in this OU and have not been geographically defined;
- OU7. The Troy OU includes all residential, commercial, and pubhc properties in and around the Town of Troy, approximately 20 miles west of downtown Libby. Non-ERS residential and commercial removal actions commenced in OU7 starting in 2010. MDEQ is the lead agency for all Site work in OU7. All removal action work in OU7 will be coordinated with MDEQ and its contractor, TetraTech;
- **OU8. OU8** is comprised of the US and Montana State Highways and secondary highways that he within the boundaries of OU4 and OU7.



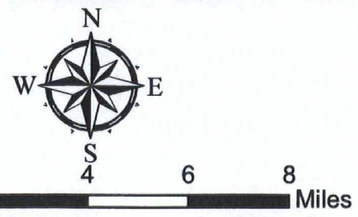


FIGURE 1-
LIBBY ASBESTOS SITE
OPERABLE UNIT LOCATION MAP

Through an IAC, the US Department of Transportation John A. Volpe Center (Volpe) assisted EPA with direction and execution of Site activities until the end of the 2009 season. The site was managed through a fixed-price "design-bid-build" mechanism. An A & E firm contracted by Volpe designed removals based on data collected in the field. The design was submitted for bid to removal contractors, who performed the removals under the oversight of CDM personnel.

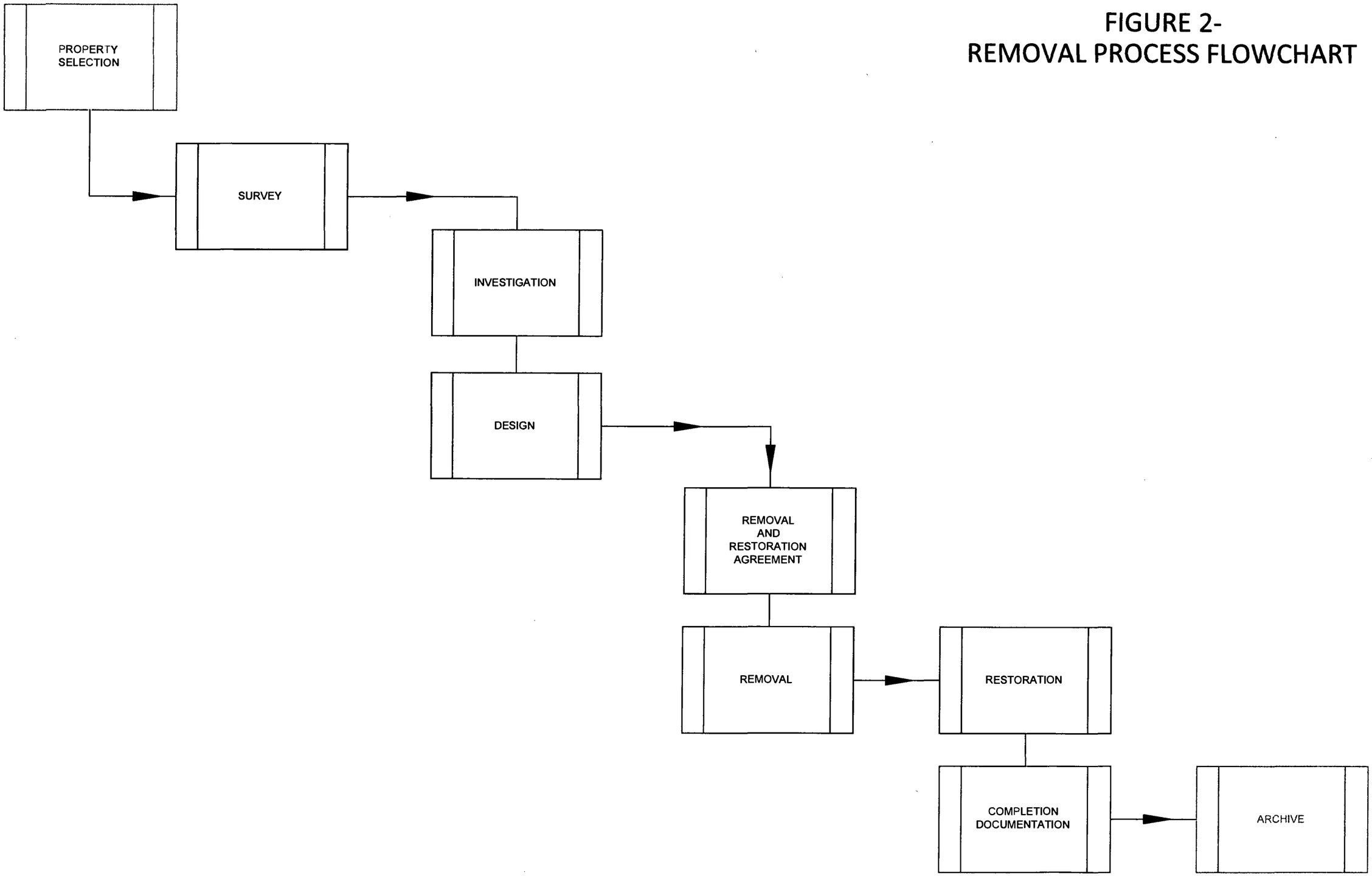
Beginning in August 2009, USACE began execution of field operations at the request of EPA. USACE and its contractor instituted a cost reimbursable fixed fee "design-build" process to fhe removal activities, thereby removing the bid process and modification orders that decrease the time and cost of removal activities. The design-build process allows USACE contractors to respond instantly to changing field conditions which affect the removal design. This RAWP outlines the current design-build process for removals at the Site fiom first contact with the property owner to completion of post removal documentation.

2.0 Property Selection and Coordination

Properties within the Libby Asbestos Site will become eligible for the removal process at the discretion of EPA. Once directed, EPA/USACE contractors will initiate the removal process on these eligible properties beginning with the initial contact of the property owner, followed by an investigation and sampling of the property (Section 3.0). If warranted by the investigation, properties will have contamination removed (Section 4.0 and 5.0) and restored (Section 4.0 and 6.0) in accordance with the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. The process from initial contract until final close-out will be coordinated with the property owner and EPA/USACE by project personnel as detail in this section.

The removal process is graphically depicted in Figure 2- Removal Process Flowchart.

FIGURE 2-
REMOVAL PROCESS FLOWCHART



2.1 Property Eligibility

Properties eligible for further investigation and possible removal actions will have their status updated in the EPA Task Manager. Current eligible properties are generated from various sources, as outlined below:

- Past investigative work at the Libby site includes an initial round of Phase 1 investigations that were implemented from 1999 to 2002 at the outset of the project to determine the extent of the LA contamination. Contaminant Screening Studies (CSS) were conducted from 2002 and the majority of them were completed by 2003, however periodic CSS investigations have been conducted since 2003. During the Phase 1 and CSS investigations, properties were either classified as requiring removal or no removal required based on field observations and analytical data. Properties were prioritized based on LA concentration in soil and dust samples and/or amount of vermiculite observed during investigations. Some properties that were previously investigated may have documented contamination above the current removal criteria, but have not had a removal action. These properties require further detailed investigation to determine specific areas requiring removal actions prior to completion of the removal design. If the CSS is of insufficient detail to qualify a property for a Detailed Investigation (DI), the property will be grouped with properties that have had no investigation work perfonned to date;
- There are properties that lay within OU4 and OU7 boundaries that have had no previous investigation. These properties will be prioritized for investigation and ultimate inclusion in the removal process as directed in the *Voluntary Recruitment Program Communication and Information Collection Strategy for Operable Unit 4 and Operable Unit 7 of the Libby Asbestos Site* (MDEQ 2011);
- In an effort to eliminate the remaining properties with interior contamination in OU4 and OU7, properties with possible interior contamination will be added to the Investigation Eligible List and completion of investigations will be a priority on these properties throughout the site;
- Many removal areas are adjacent to alley ways and right of ways (ROWs), where contamination is dispersed across the border between the two. When the removal area of a property is in contact with an alley way with visible contamination, the alley way or ROW will be removed after permission from the City of Libby, the City of Troy, Lincoln County or the Montana Department of Transportation is granted. The removal process for an alley will be similar to the process for removal of a residential property;
- During removal on a property or an alley, visible contamination may be observed extending into other properties. In this case, the property owner will be approached and a request will be made to immediately pursue removal of the visible vermiculite. A locahzed Screening or Detailed Investigation as detailed in the *General Property Investigation Sampling and Analysis Plan* (CDM 2010b) and removal will be pursued on these properties to mitigate the effect of cross-contamination;
- MDEQ performed investigations on properties in Troy using guidehnes for characterization outlined in the Troy Asbestos Property Evaluations (TAPE). The investigations were mostly performed in 2009 and 2010 with the resulting data having an informational content partway between a Screening and a Detailed Investigation. Additional TAPE investigations will continue in 2011, along with a Detailed

Investigations as outlined in the OU7 *Removal Design Investigation Sampling and Analysis Plan* (MDEQ 2010). The second round of removal actions are planned for the summer of 2011 on these properties;

- Properties where the property owner is planning renovations or remodeling activities may initiate the ERS system. Non-time critical ERS Quick Response actions will be converted into a DI. Upon the completion of the DI, a full removal will be planned that will address the intended improvements to the property and any other contamination that meets removal criteria under the current guidelines;
- Properties that were previously remediated under previous removal criteria that did not require the removal of vermicuhte, nor did the investigations require a protocol for the identification of vermicuhte across an entire property in non-specific use areas. These properties may require fiuther investigation and remediation to remove impacted soils that were not removed under the previous removal criteria. These properties may be added to the Eligible Property List at the discretion of the EPA.

2.2 GeoUnits

GeoUnits are geospatial polygons that are employed by the EPA to track investigation and removal activities at properties within the Site. Each E911 address is assigned a Property identification number, called the AD number, which corresponds to a GeoUnit. The TPIC and RC will attempt to perform complete removals by GeoUnit.

After a survey has determined the property boundary, those boundaries will be rectified with the GeoUnit polygons in LibbyGeo, as detailed in Section 3.4.3.

2.3 Geographic Removal Zones

When possible, property selection will be based on geographic grouping of properties within the OU4 and OU7 property boundaries. Geographic grouping will be managed on layers created in the LibbyGeo database that outline the boundaries of Geographic Removal Zones (GRZs). The grouping of removal areas is to facilitate optimization of field crew and equipment utilization, especially trucking, so that transit time between properties, and its associated cost, can be reduced and so oversight and management personnel can utilize their time more effectively. Implementation of this approach requires coordination with property characterization scheduling. Optimization of the process requires the buildup of a sufficient pool of properties eligible for an investigation (an estimated available backlog of 50 properties is seen as reasonable). Scheduling of removals within a geographic area will accommodate property owner needs to the extent possible. Eligible properties will be grouped into one of the GRZs illustrated in Figure 3-Geographic Removal Zones Locator Map.

EPA may also request the inclusion of larger commercial properties into the schedule that may be addressed independently of geographic grouping.

Some attempt will be made to vary the time of year for subsequent visits to each GRZ. This will afford an opportunity for removal on those properties where the removal is dependent on season (gardens, et al.), though a specific time of year will not be specified to the property owner.

Property owners within OU4 and OU7 will be notified of the process of executing removals in Libby by geographic area and that the removal teams will cycle through those areas until removals are complete.

N

W E

S

0 1 2 4 6 8 Miles

FIGURE 3-
LIBBY ASBESTOS SITE
GEOGRAPHIC REMOVAL ZONE
LOCATION MAP

2.4 Property Coordination Team

2.4.1. Roles and Responsibilities

The PCT is comprised of Community Involvement Coordinators (CIC) and the Property Coordination Manager. The primary role of CICs is to work with individual property owners and tenants of residential and commercial buildings, (hereafter referred to collectively as "property owners"), to facilitate the removal process. The role of the Property Coordination Manager is to ensure a sufficient number of properties are ready for removal and to assist CICs with any problems that might arise during the removal process. The PCT initializes and manages the interaction with property owners during the removal process. The PCT represents the property owner while coordinating the removal action with the Construction Management Team (CMT). From the initial contact to the delivery of property completion forms, the PCT serves as a property owner's point-of-contact for questions, requests, or concerns regarding the removal process.

The PCT performs day-to-day tasks required to support, document, communicate and resolve removal issues. These tasks may include but are not limited to: tending to plants and animals in a relocated resident's home, tracking waste manifest to determine the quantities of contaminated materials removed from a property, processing Change Order forms, uploading property remediation photos, and coordinating for site security. Members from the PCT and Design Team are responsible for fulfilling EPA's data management requirements for the RC, as per the *EPA Data Management Plan for the Libby Asbestos Site* (EPA 2011).

2.4.2. Property Status Updates

The property status and updates to property status will be maintained by the Property Operations Coordinator (POC). Supporting documents are maintained by the PCT in their applicable locations as follows:

- Documents (typically Records of Communication (ROC)) generated for newly eligible properties are maintained in the Property Solicitation Binder;
- Documents generated for properties in the Investigation Eligible List are maintained either in the Property Investigation Binder, during the scheduling of investigation activities, or in the specific property's file folder that is created upon the receipt of the property's Consent for Access agreement;
- Documents generated for properties in the Property Refusal List are maintained in the Property Owner Refusal Binder.

All documents are routinely transferred from their working binders or RC files into the property's original file folders that are maintained in their respective Records Center for OU4 or OU7. These document transfers occur either upon the close-out for properties that undergo a removal action, or when they come to a definable end point such as a property owner refusal. Changes to property status will be communicated to the POC using the Property Coordination Daily Quality Control Report (DQCR). The POC will ensure that the new status is updated in the Scribe database.

2.4.3. Removal Contractor Database

The PCT utilizes the Removal Contractor Database (RCD), currently a MS Access database, to facilitate tracking the data, changes in status, documentation and other activities that take place at a property during a remediation. This database contains queries that can be used to assess the status of properties and to assign tasks to personnel necessary to facilitate the removal process.

The Property Coordination DQCR is generated from the RCD. Data required for reporting to the POC for updating the Scribe database will be submitted to the POC the same day the RCD is updated.

2.4.4. Record of Communication

Contact with property owners will be documented in a ROC in the property's folder or in RCD. After the removal action at a property has been completed, all records from the folder and the database will be compiled and the complete ROC will be delivered to the Records Center Manager as part of the property folder transfer that occurs after the removal action is complete at each property.

In OU7, the contact with property owners will be performed by the MDEQ contractor, and documented in the Troy Owner Access Database (TOAD).

2.4.5. Consent for Access

The Consent for Access form will be signed by the property owner prior to the initiation of any on-site property investigation. This form will be signed when the property owners are initially contacted by the PCT, or prior to the commencement of investigation activities when the Investigation Team arrives on site. If the property is a rental property, the property owner will be responsible for informing the tenants that consent has been

granted. The PCT will be responsible for ensuring that the form is signed, or for informing the Investigation Team when the form has not been signed prior to the investigation. In the case where the Consent for Access has not been signed at the initial meeting, the PCT will coordinate with the property owner and the investigation team to ensure the homeowner is present when the team arrives at the site. It will be the responsibility of the Investigation Team to have the property owner sign the form prior to the investigation activities, and then to submit the form to the PCT by close of business that same day. The original Consent for Access form will be maintained in the RC property folder until the removal action at the property is complete. Upon completion it will be submitted to the Records Center Manager for archiving in the OU where the removal was performed.

2.4.6. Initial Contact with Property Owners

When initial contact is made by the PCT, property owners will be asked about their willingness to participate in the investigation and removal processes for the current field season, or the spring of the following season if the investigation is intended to build up a property surplus for the initiation of the next year's operational season. The PCT will explain the process of performing removals by GRZs, and that removals in their zone will only occur while removal crews are cycling through the zone. Deferring until a later date means waiting for the next time when removal crews cycle through their GRZ.

Property owners will be given the option of accepting the possibility of a removal in the current season and moving forward with the investigation process provided that they intend to see the process through to completion if a removal action is required. This offer has three common outcomes: an owner will want to proceed with the removal, the owner will want to defer the removal, or the owner will refuse the removal.

This event is recorded on the Property Coordination DQCR. Changes to the property status may occur during this contact. The Property Coordination DQCR will record the changes. A copy of this DQCR will be submitted to the POC, who will record the change in the Scribe database.

If the property owner or tenant was contacted as part of the Voluntary Recruitment Program, the information will be collected as required by the *Voluntary Recruitment Program Communication and Information Collection Strategy for Operable Unit 4 and Operable Unit 7 of the Libby Asbestos Site* (MDEQ 2011). No removals will be offered as part of this

campaign until after an investigation has been performed at the property by the Investigation Team.

2.4.7. Properties that Agree to a Removal

If the property owner accepts the offer of inclusion into the removal process, the property moves to the Investigation Property List. The POC is notified of the change in the property status. The removal process will be explained to the property owner. The PCT will start a RC Property Folder, unique to each Property AD number and GeoUnit, to collect data and correspondence associated with the property, and will begin inputting property data into the RCD.

The PCT will inform the property owner that supplemental visits to the property will be necessary as part of the pre-removal investigation process. The PCT will request that the property ovmer allow supplemental visits to the property's exterior without the property owner having to be present. If the property owner agrees to the request, then courtesy calls will be required for supplemental visits, but an appointment will not be necessary. If the property owner refuses and insists on being present during surveying, investigation activities, or the RC Preparatory Removal Evaluation (PRE), those instructions will be communicated by the PCT to the surveyor, the Investigation Team and the foremen. The PCT will document in the property folder and in the RCD whether or not the property owner is willing to allow the visits without an appointment.

2.4.8. Property Owner Status Updates

Owners of all properties that give consent to perform a removal will be contacted by the CICs to provide them with a status update during the planning stages leading up to a removal action. The frequency of contact will be determined by EPA. Property owners may choose to forgo the weekly notification calls and may give consent to only be notified upon significant milestones that require their input. These communications must be documented in ROC for the property or in RCD. In OU7, the contact with property owners will be performed by the MDEQ contractor, and documented in TOAD. Property status updates cease upon completion of the removal action at a property.

2.4.9. Deferring Properties

Property owners who are not ready for project participation, such as in cases involving elderly occupants, or properties in legal disputes may elect to place their property on a

deferral list. Property owners that choose to wait until the next time removal activities are being conducted within their GRZ will remain on the Investigation Eligible List if their property has not been characterized or on the Removal Eligible List if it has received an investigation. The deferment status will be recorded in a Property Owner Deferment Form, original documents will be transferred to their appropriate record center, and the event will be recorded in the DQCR. The POC will update the Scribe database to reflect that the property owner currently postponed a proposed investigation or removal action. A copy of the deferment form and the records of communications are kept by the PCT in the RC Deferment Properties Binder for easy retrieval the next time that crews are in their GRZ. The removal offer will be extended to the property owner the next time removal activities are scheduled to occur in their GRZ.

2.4.10. Refusal Properties

Property owners refusing clean-up activities may be removed from the Investigation Eligible List or Removal Eligible List. The PCT will make a note in the RC property folder that access for removal activities is currently not allowed and complete a Property Owner Refusal Form. The event will be recorded in the DQCR and the original documents will transferred to their appropriate record center PCT. The POC will update the Scribe database to reflect that the property owner currently refuses clean-up. The removal action will not be offered to the property owner again until fhe end of the project. As the project nears completion and if the property owner remains adamant about refusing the clean-up, a Property Refusal Form will be completed by PCT and placed in the property folder. Property owners may remove themselves from the Refusal Property List by contacting the PCT, the EPA hotiine number, or the MDEQ hotline number to place them back into eligibility for investigation or removal. A copy of the refusal form and the records of communications will are kept by the PCT in the RC Refusal Properties Binder for easy retrieval if the property owners should ever reconsider a removal.

2.4.11. Property Coordination for Investigation

Properties placed in the Investigation Eligible List will be solicited to assess the property owner's willingness to participate in the removal process. Surveys will be ordered as soon as the property owner accepts the removal. The PCT will coordinate ordering a survey for all properties where a General Property Investigation (GPI) will be perfonned by informing the Design Team when a property becomes eligible for an investigation. These events are to be recorded in the Design Team and PCT DQCRs, and the POC will

update the property status in the Scribe database. The surveyors will be given the property address, property owner name, and a contact's phone number. If the property owner has requested to be contacted prior to any visits to their property, the surveyor will be required to call to the property owner to set-up an appointment.

Investigations will be scheduled as soon as possible following acceptance of the removal and receipt of a survey. Once the survey file has been received from the surveyor contractor, the design team submits the drawing with property boundaries and any address corrections to the EPA. Also, a GPI sheet as described in Section 3.4.2 of this RAWP is prepared by the Design Team and submitted to the Investigation Team for use at the property investigation. These events are recorded in the DQCRs.

The PCT will then coordinate personnel availability from the Investigation Team to make an appointment for the investigation at a property. The PCT will notify the property ovmer that the Investigation Team will need access to all structures on the property, including any residence or out-buildings, and that they would prefer to have the property ovmer on-site for the investigatory/site history questionnaire. The property owner will also be notified that the interior investigation will be completed during the initial visit and structures will not need to be accessed again until the Interior PRE, with the exception of rare follow-up needs like data gaps or photographic documentation. Subsequent access to the property by the Investigation Team may be necessary. The property ovmer will be notified that the Investigation Team may have to return to complete their sampling efforts, and will attempt to contact the property owner if they need to return, but will access the property regardless of whether contact is made if that is agreeable to the homeowner. These events are recorded in the DQCRs and details of conversations are recorded in the property's ROC.

2.4.12. No Current Trigger Determination

In OU4, if a current removal trigger (as determined by EPA criteria) is not discovered at a property during the investigation, no removal will be required at that time. The Investigation Team will notify the PCT that no removal trigger was found at the property. The PCT will issue a letter of "No Current Trigger" to the property owner if no removal action is required at the property under current EPA removal criteria. The PCT will file a copy of the letter in the property file and then close-out the file and submit it to the OU4 Record Center Managers. The tiansfer of these documents will be recorded in the PCT DQCR and the POC will update the property status in the Scribe Database.

Properties lying within the OU7 boundaries are to comply with MDEQ removal and no further action criteria. The MDEQ contractor is responsible for issuing a notice to the property owners when no removal action is necessary. The POC for OU7 will update the property status in the EPA Task Manager.

2.4.13. Removal Action Required

When contamination is identified at a property and a removal action is required, the PCT calls the property owner to inform them that a removal action is necessary on their property. The property owner is notified that a PRE will be necessary prior to the Removal and Restoration Agreement (RRA) meeting, and that the RC representative will to contact them prior to the property visit. If the property owner has requested to be present during all property visits, the foremen will be notified to coordinate with the property owner. On some properties, the request may be made to have the property owner present as a resource of additional information on his property during the evaluation. The call is documented in the property's ROC.

The Design Team prepares the preliminary design as discussed in Section 3.4.4. and submits a copy for use during the PRE. An RC representative will visit the property to compare the preliminary design with actual site conditions, identifying any issues that may affect the removal action and to estimate the time and resources required to perform the removal as discussed in Section 4- Interior Removal and Restoration Section and Section 5- Contaminated Soil Removal. The Design Team will incorporate the notes from the PRE into the preliminary design. The completed preliminary design will also be submitted to the PCT. Upon receipt of the preliminary design, the PCT calls the property owner to schedule a RRA meeting. This call is documented in the property's ROC and updated in RCD for inclusion in the DQCR.

2.5 Removal and Restoration Agreement and Meeting

The purpose of the RRA meeting is to ensure that property owners fully understand and agree with the proposed removal action that is planned for their property. The agreement documents the removal and restoration conditions agreed upon during the meeting. During the meeting, the CIC assigned to the property explains the results of the investigation, presents the preliminary RRA design to the property owner and answers any questions that they have. If the CIC is uncertain of some of the property owner's concerns their questions may be directed to the applicable team such as Investigation, Design, or the CMT.

During the RRA meeting the CIC also discusses other applicable topics specific to the property such as relocation arrangements and generates other applicable documents that record the agreed upon terms of the removal action. The RRA meeting should result with a RRA signed by the property owner and a RC representative. Documents generated from this meeting are maintained in the RC working property files. The meeting is recorded on the property's ROC and the Property Coordination DQCR and submitted to the appropriate POC for property status updates in the Scribe database.

2.5.1. Horse-trading

Any agreement made with the property owner where the property owner gives up restoration or compensation in one area for an increase in another, a practice referred to as "horse-trading," must be approved by a govemment representative. Approval must be indicated by a govemment representative's signature on the site-specific work plan and/or punch-list tracking sheet.

2.5.2. ERS Coordination

For ERS Quick response work (Section 3.0), a complete RRA will not be utilized. Instead, an ERS Quick Response Scope of Work (QR SOW) will be generated by the ERS Team and submitted to the PCT. The PCT will coordinate with the property ovmer to set up a meeting to discuss the removal action proposed in the QR SOW. The CIC assigned to the ERS Quick Response will be responsible for ensuring that a Consent for Access Agreement and the QR SOW has been signed prior to removal activities. During the meeting the CIC will also discuss and document any relocation or other removal and restoration issues for the property and collect photo and video documentation of the pre-removal site conditions. The CIC will create a property folder to maintain the original documents and the events will be recorded in the property's ROC and in the Property Coordination DQCR.

2.5.3. Removal Activity General Policies

Removal and restoration activities will be conducted in accordance with the following General Policies:

- Only government-authorized personnel will be permitted to perform work on site or enter the work exclusion zone during the removal and restoration activities.
- Removal start dates are subject to change based on crew and equipment availability that cause fluctuations within the construction schedule. Removal dates are not

guaranteed, however the Removal Contractor will try to accommodate scheduling requests.

- If relocation is required and the resident returns to their property without prior approval, their relocation agreement with the govemment will be nullified and per diem and hotel costs will not be paid. Nullification of the relocation agreement under these conditions does not allow for re-occupancy of the property if removal or restoration activities are still ongoing.
- Any cost incurred in addition to pre-approved lodging arrangements will be reimbursed directly to the hotel by the resident. Unpaid costs will be deducted from the per diem allowance. In the event the resident is asked to leave the accommodations for non-compliance with hotel mles, EPA will not provide altemate lodging. The resident will be responsible for procuring their own lodging for the duration of the removal and restoration activities.
- Constmction and restoration work is warranted for one year after the remediation is complete. Damage to the restoration caused by pre-existing site conditions not addressed by the remediation or caused by acts of nature not enhanced by the remediation (e.g. erosion damage caused by removal of vegetation layer and not mitigated by erosion control measures) will not be covered as a warranty item.
- Property owners must inform the CIC of any future interior remodeling or exterior landscaping plans for the property that could affect the proposed removal action.
- If the property owner chooses to relocate, change, or make improvements within areas affected by the remediation activities at any time during or after removal activities and those changes are not previously documented in the RRA, any change or damage that may arise within those areas will become the liability and responsibility of the property owner.
- EPA may choose to leave contaminated materials in place if they are located in inaccessible areas or in areas not likely to be disturbed. The property owner is responsible for notifying the EPA in the future if changes are to be made to Limited Use Areas (LUA) by property owner.
- Excavation boundaries are subject to change based on the presence of vermiculite. No excavation will occur beneath sidewalls or intact concrete pads. An exception may be made, with approval of the govemment, in cases where contamination extends beneath a severely damaged or degraded sidewalk and where removal and replacement of the sidewalk facilitates more efficient and cost effective removal activities.
- The landscaping contractor will restore plants and hydro-seed a couple of days after the backfilling is complete to let the soils settle. It will then become the property owner's responsibility to maintain these areas.
- Replacement for plant materials removed from the property can be reinstalled by the government's contractor or landscape vouchers may be issued to a pre-approved vendor. Vouchers issued must be redeemed within one year of the issue date unless prior arrangements are made.
- If a sprinkler system exists at the property, the property owner will be required to provide proof that the system fimctions properly at the start of the removal to receive compensation or restoration.
- If excavation is necessary around a propane system, the system may be shut off during the removal action. It is the responsibility of the property owner to ensure that the system meets current building or other regulatory codes prior to re-pressurization of the system.

- The EPA and its contractors will not be responsible for the death of a tree if death is caused by bark or pine beetles or anything other than deaths caused by removal activities.
- If interior restoration is performed, some doors and windows may be left open as part of the removal activities. Non-secured entrances will be sealed to the extent possible with poly to prevent rain penetration and entrance of animals into the work space. Security will be provided whenever the RC is not working for all properties that cannot be secured.
- Backfill material will be provided according with the specification for those materials with no special allowances made for property owner dissatisfaction with the material. Restoration material specifications and material samples may be provided upon the request of the property owner during the RRA meeting. Backfill will be compacted to meet project specifications and grading will performed to drain away from stmctures when site conditions permit. However, minor grading undulations caused by normal settlement, frost heave, or owner activities are not warranty items.

The removal guidelines will be explained to the property owner by the CIC during the RRA meeting and are documented in the RRA.

2.5.4. Interior Removal Policies

The RRA that is presented to the property owner does not specify the exact actions taken to perform the interior abatements if they are required. When contamination is found within stmctures, the property owner is informed of the guidelines regulating interior removal actions and notified that the detailed constmction steps required for interior abatement at their property will be determined during the course of the removal action as the full extent of the contamination and the most effective abatement options become apparent. An Interior PRE will be performed by the Interior Foreman and the TQA to document the initial remediation strategy. However, since the mechanisms implemented are developed in the field in real-time through a design-build process operated jointly by the Interior Foreman and the TQA, changes made in the field will be documented by the TQA in the Quality Assurance Report (QAR) for the property. The interior removal guidelines outlined in Section 4.6.2 will be explained to the property ovmer and included in the RRA.

2.5.5. Tree Protection Policies

Property owners will be informed of the tree removal and protection policies detailed in Section 5.6.1

2.5.6. Marking the RRA Design

As part of the RRA meeting, the preliruinary removal designs will be explained to the property owner. Any changes or additions to the removal and restoration designs will be marked on the design. The property owner and the PCT will sign the marked-up preliminary removal and restoration designs. The signed design(s) becomes part of the RRA. Changes to the property designs are communicated to the design team for inclusion in the Final Designs.

2.5.7. Filling out the Removal and Restoration Agreement

The PCT will fill out each page of the RRA with the property owner, and ensure that the property owner initials each page and signs on the last page of the RRA. Any blank cells in the RRA will be marked in with pen by the PCT in the presence of the property owner prior to the property owner initialing the page.

The RRA will be filed in the RC property folder until the property is closed out. Upon completion of the removal action at the property, the original RRA will be submitted to the Record Center Manager for scanning and uploading onto OSC.net and this transfer will be documented in the DQCR.

2.5.8. Property Owner Relocation

If it is determined by the CMT that the residents must be temporarily relocated during remediation activities, they will be required to leave their homes and/or property the night preceding the start of work. The govevnment will be responsible for the cost of any approved relocation and will reimburse the resident(s) the governvnent's per diem allowance for the duration of their relocation at the end of removal activities. Relocation activities and support will be the responsibility of the CIC assigned to the property. The CIC will provide all infonnation regarding relocation to the property owner at the RRA meeting. Any keys necessary for accessing the property during the removal action are collected by the CIC. Applicable reminders (e.g., firearm safety, mail delivery hold, instructions for feeding animals and watering plants) are reviewed with the property owner and/or noted in the RRA.

Per diem rules and hotel accommodations will be explained to the property owner during the RRA meeting. Relocation information such as temporary housing options and reimbursable expenses are explained to residents who require relocation during the

removal action. If relocation is required, visits to fhe property by the property owner during the removal action will be discouraged. If a property owner accesses their property after being relocated, they will forfeit their per diem allowance. If property owners choose to stay at pre-arranged govemment-contracted lodging facilities, the PCT will make all the necessary reservations on the property owner's behalf. Otherwise property owners are informed that they are responsible for their own arrangements.

If a property owner is expelled from government provided temporary housing finding replacement housing and payment for that housing will be the responsibility of the property owner. Expulsion from government provided housing will in no circumstances result in the property owner being allowed to re-occupy their property prior to completion of the removal process and attainment of a negative clearance sample results for the removal.

2.5.9. Business Closure

Businesses may be closed during remediation activities. Minimization of adverse impacts to the business is a priority for removal scheduling and will include working at nights, on weekends, or during holiday closures. This schedule will be determined by the RC with approval from the USACE. No costs for loss of business will be provided by EPA. However, relocation assistance may be provided upon approval by USACE and EPA if remediation activities would result in unreasonably long business closure or if any shutdown of the business activities is unallowable.

2.5.10. Coordinating Contact for Removal Questions

At the end of the RRA meeting, property ovmers are encouraged to contact their CIC with any questions or concems. Contact information is exchanged and the CIC will request a contact number that will work if the property owner is relocated during the removal action (i.e. cell number or a number for the place where they will be staying).

2.6 Pre-removal Property Coordination

2.6.1. Landscape Inventory

After the RRA has been signed, the landscape contractor is contacted and tasked to perform a landscape inventory. When possible, the landscape contractor will be on-site at the end of the RRA meeting. Once onsite, the landscape contractor performs a landscape inventory to identify and quantify vegetation in and near the removal areas that

will require replacement. The landscape inventory is submitted to the PCT for inclusion into the RC property folder. The actual amount of vegetation removed will determine the budget for restoring vegetation to the property.

2.6.2. Generation of the Final Design Packet

After the RRA meeting, the PCT submits a copy of the marked-up RRA designs to the Design Team. The Design team incorporates the changes to generate the Final Removal and Restoration design(s) as discussed in Section 3.4.8. Then a final design packet consisting of the final design(s), the RRA, the Interior/Exterior PRE(s), a copy of the GPI drawing received from the Investigation Team as described in Section 3.4.2, and any other relevant infonnation will be distributed to the Foremen, TQA, the CMT, the Set-up Tearu, and the removal crews. The creation of the final design packet is recorded in the Design DQCR.

2.6.3. Pre-removal Documentation

Each property is extensively documented by the PCT prior to the removal action in accordance with the Property Documentation Reference Checklist. Photos and videos are collected to document site conditions including, but not limited to, existing feature damage, existing structure material damage, operability of utility systems within designated work zones, and all interior and exterior areas that require remediation. This documentation will be used to reproduce features during the site's restoration.

The interior of structures, especially foundations and water damage, will be documented on all removal types.

CICs will utilize yard-sticks or other instruments of measurement to document the dimensions of intricate or complicated landscape features such as flower beds. Interiors that require remediation are to be documented after the residents have vacated the structure and before RC crews have commenced removal activities. Digital images should be shot at a resolution of 5 megapixels and date codes will be stamped on the photos to document when they were taken. Significant damage or other notable complications observed during the documentation will result in a Pre-existing Conditions letter being generated and the property owner being notified of the conditions prior to the start of the removal action.

Photographic and video documentation events are recorded on the Property Coordination DQCR and in the RCD.

2.6.4. Documentation for ERS Quick Response

For cases involving a time-critical ERS Quick Responses, the activities mentioned above can be altered and expedited according to need. For time-critical removals or emergencies, any or all of this documentation can be re-addressed upon the completion of field activities.

2.6.5. Documentation of Contaminated Interior Areas

CIC are not to access interior confined spaces where contamination has been identified. However, pre-documentation of these contaminated areas (attics, crawlspaces, etc) is still required and can be performed by personnel from the removal crew or other qualified personnel, as directed by the CIC. The CIC assigned to the property will be responsible for acquiring this documentation.

2.6.6. Utility Locate Request

If an exterior soil removal will be performed, the PCT will contact U-Dig to order a utility locate on the property no later than three business days before the commencement of the removal action. This documentation is maintained in the property's file folder and in RCD.

2.6.7. Scheduling the Removal Action

The CMT is responsible for generating a removal action schedule. Economic, time and personal considerations of business and property owners will be considered when scheduling removal actions, though changes to the schedule are ultimately at the discretion of the CMT.

When a property is scheduled for a removal action, the CIC will inform the property owner of the estimated removal start date. The conversation will be documented on the property's ROC.

The CIC will contact property owners with increasing frequency to update them of the expected start date as their removal date approaches. The day before the removal action

is planned to begin, the CIC will inform the property owner of the actual start of the removal activities.

2.6.8. Coordinating Relocation

If relocation of the property owner is required, the CIC will make the appropriate arrangements for hotels, pet care, etc., as necessary on behalf of the property owner. Any access to the property after relocation by the property owner is not allowed until the property has been cleared for the residents to reoccupy. In the case that items are accidently left behind after relocation has occurred, the CIC will coordinate the retrieval of such items as requested by the property owner until the property has been cleared for the residents to reoccupy.

Per diem standards will be determined by current U.S General Services Administration mles.

2.7 Property Coordination during Removal Actions

2.7.1. Pets and Plants

The RRA documents the need to care for plants and/or animals of relocated property owners. Since CICs are not allowed fiill access to the properties during the removal actions, under some circumstances they may ask other personnel qualified to enter the site to perform these tasks. However, it is still the responsibility of the CIC assigned to the property to ensure that these tasks are performed during the removal action.

2.7.2. Tracking Waste Shipment Records

Waste shipment records (WSR) document the transportation and disposal of impacted soil and materials from work sites. Removal of impacted material is tracked by a property's E911 address and property ID. The sum of the WSRs is utilized as the official count used to determining the removal volume of impacted materials from a property. During removals, original WSRs are filed in a manila folder contained within the RC property folder by the PCT. Each day, CICs input the data from the records into RCD for each property that is undergoing a removal action and upon the completion of the removal the quantities are tabulated to create the Waste Shipment Log and the Removal Volume Form. The Waste Shipment Log and Removal Volume Form are submitted to the appropriate Record Center manager upon close out of the property's folder for upload

into the Scribe database. The RC contractor retains the original WSRs as a back-up for disposal verification purposes.

2.7.3. Tracking Quality Assurance Reports

TQA personnel generate QARs for each property that they oversee on days that they undergo removal or restoration activities. The property QARs are electronically submitted daily to the CMT integration into the site DQCR. The original property QARs are submitted to the PCT. The PCT is responsible for filing the original signed QARs in the appropriate RC property folder during the removal action. The QARs will be submitted by the PCT to the appropriate Record Center Manager upon completion of the removal action for upload to OSC.net.

2.7.4. Tracking Changes to the Site-specific Work Plan

A signed change on the site-specific work plan or punch-list tracking sheet documents a property's owner concordance with the RC for changes to the removal and restoration agreement at their property. Changes may be generated by the CMT, TQA, or the PCT. Significant changes which carry cost impacts to the project, other than removal boundary expansion driven by the presence of contamination, must be reviewed and approved by a USACE representative. Where changes suggested by the property owner may have negative impacts on the protectiveness of the remedy or on other portions of the property not immediately affected by the removal action, the property ovmer must be informed in writing of the possible adverse impacts.

The original forms and site—specific work plans are submitted to the PCT following removal activities for filing in the RC property folder. Documentation of the change must remain on site as part of the QC site-specific work plan for reference to anybody performing work on the site. All Change Orders are documented in the QAR of the property from which it originated. The QC site-specific work plan is submitted to the appropriate Record Center Manager upon completion of the removal action for upload on to OSC.net.

2.7.5. Daily Close-out Meeting

A representative of the PCT will attend the Daily Close-out Meeting (DCOM). The DCOM supplies the PCT with updates on the progress of the removal action at each property. The status of the property is tracked by the PCT and updated as necessary in the RCD and by notifying tne POC.

2.7.6. Security Schedule Updates

The PCT is responsible for coordinating the overnight security for the surveillance of properties where residents have been relocated and the property cannot be secured or locked-up overnight, as detailed is Section 5.10. Security requirements will be determined every day at the DCOM.

2.7.7. Notifying Property Owners of the Progress of the Removal

The PCT will be notified by the CMT when a removal action is complete, when the property is accessible to property owners, or when residents may return to their properties. Property owners will be notified of the expected completion date, and be kept infonned of any changes to that date. At a minimum, all property owners will receive a courtesy call at a frequency determined by EPA to update them on their current removal status. Conversations with property owners will be documented in the property's ROC.

2.7.8. Retrieving Items for Property Owners

Because of the hazardous nature of the removal action work, access to properties for relocated residents or business owners will not be allowed until the results of the clearance samples meet the clearance criteria established by EPA. All restoration work that could significantly impact the resident's or business owner's health and safety must be completed prior to the homeowner being allowed access to the work areas. Only under emergency situations will items be retrieved for property owners and/or tenants. Retrieval of items will be coordinated by the PCT.

2.7.9. Anticipating Completion of a Removal Action

The CMT will notify the PCT upon the completion of a removal action at a property. Upon notification of completion, the PCT will ensure that the following tasks are performed: documenting the restoration of the property, informing property owners that they may return to the property, cancelling security, and notifying the landscape contractor that vegetation may be restored. Property owners are informed that minor restoration work (e.g., landscaping and small repairs) may still need to be performed at their property and that they may continue to see project personnel until all restoration activities are complete. Conversations with property owners are documented in the property's ROC.

2.8 Property Coordination Post-removal

2.8.1. Collection of Photo and Video Documentation

The PCT collects photos and videos of all properties following the completion of restoration activities and the final inspection. This task documents the condition of the property as it was left by the RC crews and helps identify any outstanding restoration issues. Interior restorations are to be photo and video documented before the property owner returns. Exterior restoration may be documented before the property owner returns or directly thereafter.

Documentation of difficult to access areas (attics, crawlspaces, etc) may be performed by the removal crews or TQA as directed by the PCT. Any restoration videos or photos collected by the removal crews will be submitted to the PCT. The CIC assigned to the property is responsible for ensuring that all video and photographs have been collected and uploaded.

Post-restoration documentation events are recorded on the Project Coordination DQCR and in the RCD. All photos and videos will be transferred to the Record Center Manager for the appropriate OU.

2.8.2. Property Owner Reimbursements

After the completion of a removal action, the CIC will meet with residents to attain signatures on the Reimbursement Claim for Superfund Temporary Relocation Assistance form, the Plant Material Replacement Certificate, and/or other claim forms for other compensated materials as applicable.

This meeting is documented on the property's ROC. Any signed reimbursement forms are updated and tracked in the RCD and maintained in the RC property folder.

For relocations, the CIC will generate a Reimbursement Claim for Superfund Temporary Relocation Assistance Form based on the dates that the property owner was relocated. After verification of the correct amount, it will be presented to the property owner for their signature. The Head of Household (HOH) will be required to sign the form. The form is then submitted to the RC's cost accounting for processing.

All other claim forms will include justification for the amounts that are reimbursed. The Plant Material Replacement Certificate will document what vegetation was removed and

the amount allotted for restoring vegetation that is not restored by the contractor. The Other Compensated Materials Claim form will be accompanied by back up documentation of compensation volume or amount and the justification for the compensation. Sprinkler System Compensation Claim Forms will be accompanied by the minimum bid that documents the compensation amount from a sprinkler installation contractor. Water Reimbursement Claim Forms will be justified with statements from the utility provider and are calculated based on the difference in water usage when compared to the same time frame the previous year.

After the property owner signature is obtained, the form is submitted to the RC's cost accounting department for processing. The RC will generate a check for the property owner within two weeks of initial processing. Upon receipt of the check by the PCT, the CIC will deliver the check to the HOH. The HOH will sign for the check at the bottom of the original claim form, verifying that the check has been received. This form is then filed in the RC property folder. These meetings are documented on the property's ROC. Delivery of reimbursements is updated in the RCD and original claim forms and back up documentation is transferred to the appropriate records center at close-out.

2.8.3. Landscaping

Hydro-seeding will be performed after restoration activities by the RC are complete. The PCT will notify the hydro seed sub-contractor immediately after the completion of an exterior removal action. In rare instances, sod may be placed in areas used to pen dogs with government approval to ensure a stand of grass is attained to provide protection to the remedy. If a property owner requests a credit for hydro seeding or wants to delay hydro seeding to facilitate other activities, the property owner will be accommodated for a period of 30 days following completion of removal activities after which time the property will be hydro seeded to protect the remedy. Any credit for hydro seeding will be rescinded once the hydro seed has been installed. Property owners that voluntarily postpone hydro seeding or other landscaping activities will assume responsibility for ensuring that conditions at their property are suitable for the landscape sub-contractor, for examples: the RC will not revisit a property to rake up leaves or re-grade areas that the owner changed.

After the removal action, a determination will be made by the landscape sub-contractor to verify the final quantity of vegetation that was removed by the RC and the replacement price of that vegetation and its installation. This budget may be used by the property

owner to replant the yard themselves, or can be used to have the plants installed by the landscape sub-contractor.

The CIC will coordinate the restoration of vegetation after removal actions between the property owner, the RC cost accomting, and the landscape sub-contractor.

2.8.4. Property Completion Documentation

The PCT will track tne receipt of Property Close-out Checklist from TQA in RCD and tne DQCR. The PCC packet will be submitted to the Design Team who will prepare a Final Removal Red-line drawing. The CIC assigned to the property will utilize the Property Completion Checklist (PCC), Final Removal Red-fine, QARs, and clearance sample results to prepare the Removal and Restoration Completion Form for the property. All Removal and Restoration Completion forms are to be reviewed by the Property Coordination Manager for accuracy and by a technical reviewer if any contamination is left remaining on the property. A copy of the Final Removal Red-Line will be attached to the back of the Removal and Restoration Completion Form when it is presented to the property owner.

2.8.5. Property Close-out Meeting

After the completion of the Removal and Restoration Completion Form, the CIC will conduct a meeting with the property ovmer to summarize the removal action that took place. The property owner will also receive documentation of the results of the removal action on their property and the final status of their property will be explained in the Property Completion Letter. If the removal was an ERS Quick Response, the final status after the ERS work will be explained in the ERS Property Completion Letter. CICs will deliver any reimbursement checks, a High Efficiency Particulate Air (HEPA) vacuum, and acquire required signatures on close-out documentation. During this meeting any unaddressed restoration issues brought up by the property owner will be documented in a Punch List Form that is used to track that the items are carried out to completron.

2.8.6. HEPA Vacuum

A HEPA vacuum will be provided to each residential and commercial property where a removal action has occurred, if one has not already been issued to the property. Under some circumstances, properties may have already received a HEPA vacuum and will not be issued another. Prior approval will be needed from EPA for commercial properties if they are to be issued an industrial HEPA vacuum. The property owner will be informed

that the vacuum is to remain with the property in all cases. The property owner will sign the HEPA Vacuum Receipt Form signifying that the vacuum was received and instmction in its use was given by the CIC. The serial number from the vacuum will be secured to the HEPA Vacuum Receipt form. The form will be filed in the RC property folder and the information updated in the RCD.

Properties where a demolition was performed and where no habitable stmcture remains will not be issued a HEPA vacuum. If a stmcture is built in the future and the property owner wishes to participate in the HEPA vacuum program, they can request a vacuum from the EPA Information Center.

2.9 Data Management for the Property Coordination Team

The collection of property data will abide by the standards set forth in the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011).

2.9.1. Property ID and GeoUnits

Under the EPA data management approach, the term "property" is explicitiy defined as a unit of assessment for EPA purposes. All data and documents must be correctiy associated with an EPA-approved Property Identification Number (Property AD#). This Property AD# is tied to one or multiple E911 address or addresses and is considered a complete assessment unit for all Site activities.

GeoUnits are geospatial polygons that are intended to be determined by property boundaries. Each Property AD# will be initially associated with one or more GeoUnits. A GeoUnit may contain more than one Property AD#, as is the case with trailer parks and apartments complexes.

The PCT generates field data and maintains records of property owner contact, including initial contact attempts, property owner responses, site visits, etc. and documents remediation activities in applicable paper and electronic forms as presented in Appendix C - Reporting Requirements for Documents of the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011) and links that documentation to the Property AD#.

2.9.2. Documentation Review

After the Property Close-out Meeting, all documents in the RC property folder will undergo a complete review for accuracy. Any necessary changes will be made and

follow ups will be performed to ensure compliance with the standards set forth in the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011).

2.9.3. Removal Contractor Property Folders

Documents in the RC property folders will be tracked and organized in the order set forth by the Residential/Commercial Removal Closeout Records Table of Contents. A copy of the documents will be made for retention by the RC and property folders will be closed out and archived. The original documents will be submitted by the PCT to the appropriate Record Center Manager as required by Appendix C of the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011).

The transfer of these documents will be tracked using a Transmittal Letter or the Residential/Commercial Removal Closeout Records Table of Contents that will be signed by the Record Center Manager and a representative of the PCT. The Record Center Manager will scan the documents and upload them to OSC.net. The original documents will be filed in the official property folder and archived in the Record Center. The transfer of original documents is recorded in RCD and the Property Coordination DQCR.

2.9.4. Photos, Videos, and CAD files

The PCT will submit all photo and video documentation to the appropriate Records Center Manager upon the completion of the removal season for the year. The RC will submit copies of the electronic files for all property surveys and any other Computer Aided Drafting (CAD) files to the EPA as set forth in the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011) and document the submittal in the Design DQCR.

2.10 Daily Reporting Requirements

Activities performed by the PCT are recorded each day in RCD for inclusion into the Property Coordination DQCR. The Property Coordination DQCR is submitted to CMT each morning for inclusion in the Site DQCR. The PCT is responsible for reporting any information generated by the RC for the scribe database as set forth in the *EPA Data Management Plan for the Libby Asbestos Site* (EPA, 2011) to the appropriate OU4 and OU7 POCs to update property status information. The POC will ensure that the updates are published to the Scribe database and applicable forms are uploaded to Scribe.net.

3.0 ERS Quick Response, Investigation and Design

3.1 Roles and Purpose

The relationship between the ERS Team, Investigation Team, and the Design Team is to identify interior and exterior areas that are pathways of exposure for properties within the Site's boundaries, and to communicate that information efficiently to the removal crews. The ERS Team discovers the contamination and designs a remedy. The Investigation Team discovers the contamination and their data is relayed to the Design Team, who uses it to generate a design for the removal action that will be performed by the RC.

3.2 ERS

The ERS program has been implemented by the EPA in an effort to assist property owners requiring the quick removal of LA contaminated soil (LACS) or potential asbestos exposure pathways caused by damage, remodeling, renovation or demolition. The ERS program initial site visits and assessments will be performed by the TPIC under direct EPA contract. The removal design will be a joint effort between ERS personnel and the RC. Implementation and documentation of ERS response actions will be operated by the RC in coordination with USEPA, USACE, TQA, the ERS Team and RC personnel.

The ERS Team will make the effort to convert ERS Quick Responses to Detailed Investigations (DI) and full removals as often as it is feasible. All subsequent DI activities will be completed by the Investigation Team.

All ERS investigations will be performed as directed by the *Environmental Resource Specialist Plan* (CDM 2010a).

3.2.1. ERS Protocols and Procedures

Through various outreach and community involvement efforts, property owners in Libby have been notified of the ERS Quick Response program, and have a hotline number available to call for ERS issues. When a property owner calls the ERS hotline number, they will be connected with the ERS manager.

Time-Critical ERS Quick Response actions include the creation of new exposure pathways due to damage or as a result of remodeling activities already underway or

scheduled to begin soon. Non-time critical ERS work includes planned remodeling or capital improvements in areas of known contamination. Once the level and priority of the necessary removal action is determined, the ERS Team will begin coordination with the RC.

The ERS Team is responsible for ensuring a current Consent for Access is signed by the property owner prior to evaluation activities. The ERS Team will ensure that the signed Consent for Access form is submitted to the PCT if a removal is necessary.

3.2.2. Exterior Time-critical ERS Procedures

Exterior time critical ERS include infrastructure damage to the property that involve necessary excavation in areas impacted with LA, such as damage to a septic system or damage to a structure that causes vermiculite to escape from the walls to the exterior. In these cases the ERS Team will investigate the property and notify the RC when immediate action is necessary. No analytical data will be collected on time critical exterior ERS quick responses. If vermiculite is observed, the removal area will be marked with marking paint and removal by the RC will be expedited.

With ERS properties that have had a previous removal and/or an investigation and have already been surveyed or sketched, the ERS evaluation will utilize the existing survey, excavation drawings, or site sketch to delineate the removal area.

Excavation of ACS will be in accordance with Section 5.0. Replacement of clean fill material will be in accordance with Section 6.0.

3.2.3. Interior ERS Time-critical Removals

If the ERS involves a new interior exposure pathway to LA due to a change in conditions on the property, such as the exposure to vermiculite from a damaged structural component or current remodeling in areas of contamination, the ERS Quick Response is time-critical and the removal process will be expedited to address the exposure as soon as possible. The ERS Team will conduct the initial investigation. If contamination is discovered in an area affected by current or planned changes, the ERS Team will coordinate with the RC interior foreman to schedule a walk-though of the property to determine the scope of the removal action.

In the event that interior spaces of the property have not been previously investigated, RC interior foremen and ERS Team personnel will perform a check of attics and crawlspaces for the presence of vermiculite and/or LACS. For time-critical interior ERS removal actions, a complete interior removal will be performed in accordance with Section **4**.0.

If the removal action will not take more than half a day (i.e. a small amount of vermiculite leaking from a hole in the wall), and the ERS Team and the RC interior foreman agree that it is appropriate, the response by the RC interior crews may be immediate. In this case, the ERS Team will be responsible for coordinating TQA activities. Site activities will be documented by the ERS team on the QAR.

Integration of time-critical ERS Quick Responses into the removal schedule will be a priority of the CMT.

Exterior investigation activities will not be performed as part of the interior time-critical ERS Quick Response until exterior investigation work is planned for the respective GRZ.

3.2.4. ERS Non-time-critical removals

If the ERS hotline was called because of planned remodeling or capital improvements in areas known or suspected to be contaminated with LA source materials, the ERS is non-time critical. The property will be added to the Investigation Property List and the property owner will be informed that their property will have a removal action when removal crews mobilize to their priority area. Some renovation related removal actions may be expedited at the discretion of USACE to accommodate the property owner and to avoid the possibility of evolution to a time-critical removal through property owner actions. The removal action will address the current interior removal standards as well as address the ERS issues.

ERS evaluation information will be submitted by the ERS Team to the Investigation Team and the Design Team prior to investigation activities to inform them of the ERS-specific removal needs. A DI will be performed in accordance with the *General Property Investigation Sampling and Analysis Plan* (CDM 2010b). The removal design will include removal areas based on the ERS needs in addition to removal activities based on the DI data.

3.2.5. ERS Restoration

Compensation will not be offered for materials removed during renovation-driven interior ERS since those materials would have been replaced as part of the renovation if it had proceeded without needing a removal action.

3.2.6. Documentation of ERS Removals

Documentation, design and property coordination will be conducted in accordance with the applicable performance standards and requirements for properties requiring a complete removal, whether interior or exterior, as described in the Section 2.5.3 and 2.8.

An ERS Completion Letter will be prepared by the PCT to document the ERS removal action. Copies will be delivered to the property owner and placed in the RC property folder. The original document will be subruitted to the Records Center Manager for the applicable OU, upon completion of removal activities.

3.2.7. Winter ERS

All attempts will be made to facilitate any removal action during the normal construction season (generally April through November). Inclement weather during the winter months makes removal actions impractical due to equipment issues and/or facility infrastructure closures. In situations when the ERS has been contacted, the EPA Response Project Manager (RPM) will make the final determination on whether a quick response will be completed outside of the normal construction season. The RC will ensure that the needed equipment is procured quickly to facilitate a quick response during the winter months.

3.3 Investigation

3.3.1. OU4 General Property Investigation

The purpose of GPIs is to determine the presence of LACS and vermiculite on a property. The Investigation Team (currently EPA Response Action Contract (RAC) contractor) is responsible for conducting all property investigation activities as detailed in the *General Property Investigation Sampling and Analysis Plan* (CDM 2010b).

Properties lying within the OU4 boundaries where no previous investigation has been performed will require a Screening Investigation (SI) to be conducted by the Investigation Team. The purpose of the SI is to determine the presence of LA contamination or source materials in the soil within a property's boundary or vermiculite in accessible interior areas, and then to determine if the contamination triggers a removal

action. The SI encompasses a full characterization to determine the presence of contamination. It is used to identify properties requiring additional pre-removal characterization (Detailed Investigation (DI)) and those properties that require no further action under existing removal criteria. The purpose of the DI is to define the extent of the contamination at a property for the purpose of generating a removal design.

Management of the Site's investigation schedule will be performed by the PCT to ensure that the investigation and design processes are integrated and to provide a constantly replenishing supply of properties for the removal crews.

3.3.2. OU7 Investigation

Investigations in OU7 (Troy, MT) are performed under the direction of MDEQ using the guidelines of the Troy Asbestos Property Evaluation (TAPE). Further investigation will be performed by the MDEQ contractor on TAPE properties with an exterior removal trigger, as outiined in the OU7 *Removal Design Investigation Sampling Analysis Plan* (MDEQ, 2010). The MDEQ contractor will provide the investigation data to the Design Team. The MDEQ contractor will work with the Design Team to generate removal designs for OU7 properties.

3.3.3. Investigation Protocols and Procedures

As soon as the survey is received, the PCT will coordinate with the Investigation Team to determine times when investigations can be scheduled. After open times are determined, the PCT will contact the property ovmer to schedule an investigation. The Investigation Team will be notified immediately of the time and address of the scheduled investigation. Changes in the schedule due to the inability of the property owner to be present or unanticipated delays for the Investigation Team will be coordinated through the PCT.

A GPI sheet will be prepared by the Design Team as discussed in Section 3.4.2 and submitted to the Investigation Team prior to the commencement of investigation activities.

3.3.3.1. Initial Contact

Upon arrival at the property, the Investigation Team will introduce themselves to the property owner and briefly explain the investigation process. If a Consent for Access has not been signed prior to this visit, one will be obtained before any investigative work is

initiated. The signed Consent for Access for will be submitted to the PCT after investigation activities.

It will be explained to the property owner that the interior investigation activities will be completed along with as much exterior investigation as time allows, and that the Investigation Team may have to return at short or no notice.

Investigation Teams will follow a direct transition from a SI to a DI after discovery of a removal trigger in accordance with the *General Property Investigation Sampling and Analysis Plan* (CDM 2010b). Because it is often unknovm at the beginning of an investigation whether or not a DI will be required, the property owner will be made aware of the process and the possible impact on the investigation completion schedule at the property. This will allow the Investigation Team to keep scheduled appointments and fill as many data gaps as their schedule permits.

3.3.3.2. Exterior Inspections

The Investigation Team will utilize the GPI sheet prepared for them by the Design Team to create the GPI drawing.

During investigation activities, the Investigation Team will make notes on the GPI sheet of property characteristics (mbbish piles, topography issues, stmctural issues, etc) that may impede the removal activity or be a factor in subsequent restoration efforts. Significant issues will be relayed to the PCT, who will then contact the property owner, USACE on-site representative, and EPA RPM if needed, to determine whether resolution of those issues can be accomplished before further effort is invested in the property. If no resolution can be attained, efforts toward removal will stop.

At the end of each removal season, sufficient investigations will be performed to have the capacity to begin the next season, without delay, when the weather permits.

3.3.3.3. Interior Inspections

If requested, a footprint of the residence(s) and all outbuildings will be supplied by the Design Team to the Investigation Team for sketching and marking purposes prior to interior inspections. The Design Team will base building footprints on survey data. The footprint may be used to create the interior investigation sketch.

Interior inspections will be performed in accordance to the *General Property Investigation Sampling and Analysis Plan* (CDM 2010b).

Interior photos collected during the interior inspection will be submitted to the Design Team along with the investigation sketch after the completion of investigation activities.

3.3.3.4. No Current Trigger

When the exterior inspection and interior inspection indicate that the property does not qualify for a removal under the current removal criteria, a letter of No Current Trigger will be submitted to the property owner as discussed in Section 2.4.12.

3.3.3.5. Investigation Results Data Transfer

Inspection forms and property information are to be submitted by the Investigation Team to the Design Team upon completion of investigation activities and documentation. All field information, photos and documentation for the property will be included and will submitted electronically. The receipt of this information is recorded in the Design DQCR.

3.4 Design

The Design Team is responsible for providing prepared surveys on GPI sheets for the GPI drawing to form the basis for designs, for preparing preliminary designs for use in preparatory removal evaluations and property owner RRA meetings, final Removal and Restoration designs for contamination removal and property restoration activities, and EPA deliverables that graphically depict the results of the removal action. The Design Team is also responsible for checking the results of the survey against the GeoUnit polygons in LibbyGeo, and for notifying EPA when GeoUnits need to be altered to match surveyed property boundaries.

3.4.1. Surveys

Upon property owner consent to a possible removal action (pending results of the GPI), a topographic survey will be ordered from the survey subcontractor by the Design Team. Before any survey is ordered, the Design Team will determine that a survey has not been previously performed for the property by coordinating with the PCT. If a survey already exists, the existing survey will be utilized unless the survey does not accurately depict the

property as determined during the property investigation by the Design Team or the Investigation Team.

Land surveys will include topographic information for determining grades during restoration activities, and a property boundary survey to determine the limits of the property where the removal is being conducted. The surveys will also include all physical and geographic features of the property (e.g., stmctures/buildings, trees, individual land use areas). The survey contractor will be a registered and licensed land surveyor in the State of Montana. Survey personnel conducting field surveying activities at properties with ACSs will be required to comply with the *Accident Prevention Plan* (APP) (HFS-PRI, 2011).

If a property owner has requested to be present at all times during Site personnel visits, the survey vendor is required to contact the property owner prior to arriving on the property or to notify the PCT of the date and approximate time of surveying activities.

Property Surveys should be completed and delivered to the Design Team within ten calendar days of a property being requested from the survey sub-contractor.

Deficiencies in the survey, such as properties not being accurately represented by the survey, will be noted by the Investigation Team during the investigation process and by the removal crews and TQA during the removal process. Deficiencies will be inspected by the Design Team. Deficiencies will be noted by the Design Team and discussed with the survey sub-contractor and rectified by the surveyor at no additional cost to the govemment if the deficiency is significant enough. Repeated deficiencies or inability to rectify the deficiency will result in not using the offending survey sub-contractor per the request of the Design Team Manager.

3.4.2. Preparation of the Survey for Investigation Activities

Upon receipt of the property survey from the survey sub-contractor, the Design Team will develop scaled drawing sheets for the Investigation Teams and deliver the drawing to the Investigation Team for use during the GPI process. The GPI sheets will include:

- The Correct Last Name of the Property Owner
- Correct E911 Address
- Property GeoUnit, AD, and Associated BD Numbers (if available)
- Drawing Date
- A Scale and North Arrow

- A 10-Foot Grid Overlay for the Property Exterior (for sampling use)

The Investigation Team will use the drawing to identify areas of visible vermiculite, soil sampling locations (delineated sampling areas), miscellaneous materials, hazards and/or items not noted by surveyors.

After the investigation at a property has been completed, and prior to receipt of property sample results, the Investigation Team will submit the marked up GPI sheet, showing the location of sampling areas to the Design team for placement of the sampling locations within the survey. The design team will then submit a table of the sample location points in a Lat-Long format to the Data Management team for upload to the EPA's Scribe.net database.

3.4.3. Comparing Surveys to the GeoUnit

The Design team will prepare projection files of the surveyed property boundaries for use by LibbyGeo database managers for the correction and identification of GeoUnits. The projected property boundaries will be compared against the GeoUnit in the LibbyGeo database. Based on the comparison, the Design Team will determine if the GeoUnit needs to be split or multiple GeoUnits are to be merged. The projection files will be submitted to EPA accompanying a spreadsheet detailing splits, merges, and corrections to current GeoUnit locations.

3.4.4. Generation of the Preliminary Removal and Restoration Design

The Design Team will compile appropriate information collected from all previous investigations performed at a property to produce a removal and restoration design for the property. For exterior removals, the preliminary removal and restoration designs will include:

- The correct last name of the property owner
- Correct E911 Address
- Associated GeoUnit, AD, BD Numbers
- A Scale and North Arrow
- Removal Areas, hatched in a pattern corresponding with associated excavation depths and restoration materials as shown within the legend of the removal or restoration design
- A table showing estimated removal areas and volumes
- A restoration design to return the property to its pre-removal condition
- Drawing date
- Constmction notes and specifications unique to the property
- Designer's name
- QC reviewer's name

- Investigation Team reviewer's name

The interior design template will include the following information to be employed in the hterior PRE:

- The correct last name of the property owner
- Correct E911 Address
- Associated GeoUnit, AD, BD Numbers
- A north arrow
- A footprint of the stmcture including all levels where contamination was observed
- Location of areas where venniculite was observed
- Drawing Date
- Notes focusing on hazards, areas of egress, and clearance space
- Construction Notes and Specifications unique to the property

Upon completion of any preliminary design, the Design Team will review the Removal and Restoration design for accuracy, constmctability, and consistency with other designs. Constmction Notes and Specifications will be reviewed for accuracy and relevance to the design.

3.4.5. QC of the Preliminary Design by the Investigation Team

The Design Team will submit all preliminary designs for review to the Investigation Team. The Investigation Team will check the preliminary design against the investigation data to ensure accuracy of the design. The Investigation Team will ensure the accuracy of the design to include the contamination discovered during the investigations and will note any deficiencies that require correction. Once the design has been checked, the Investigation Team will submit it to the Design Team. These document transfers will be tracked in the Design DQCR. Revisions to the preliminary design will be made and the investigation reviewer's name and review date will be added to the drawing.

3.4.6. RC Preparatory Removal Evaluation

Once the removal areas on the design have been qualified by the Investigation Team, the Design Team will prepare a copy of the preliminary design and an Interior/Exterior PRE form for delivery to the CMT. The CMT will evaluate the property for staging areas, access areas, hazards and crew/equipment loads, making notes on the form and the initial design as necessary. The CMT will submit the initial design and the PRE form to the Design Team upon completion of the evaluation for inclusion in the RRA Removal and Restoration design. The CMT will note on the preliminary design the contamination

reduction zones, decontamination areas, and access areas. The Design Team will revise the preliminary drawing and the CMT representative's name and PRE date will be added to the design. Upon completion of the revised preliminary design, the Design Team will submit the preliminary design to the PCT for use in the RRA.

3.4.7. RRA Removal and Restoration Design

The property owner and the PCT will meet to discuss property-specific removal and restoration plans. The preliminary design will be marked with any changes or additions that the property owner and the PCT have agreed upon during the RRA meeting. The property owner and a representative of the RC will both sign the RRA design in accordance with Section 2.4. A copy of the signed preliminary design will be submitted to the Design Team for inclusion in the final design. The original will be kept in the RC property folder until it is submitted to the Records Center Manager.

3.4.8. USACE Review of the Preliminary Design

The revised preliminary designs will be submitted to a USACE designated representative for approval prior for use in the site-specific work plans. After a signature is obtain, the design is considered final.

3.4.9. Final Design Preparation

The Design Team will prepare a site-specific work plan for each property to be used for planning, remediation, and restoration purposes. Each site-specific work plan will include a RRA, a property specific GPI drawing, and the final design(s) specific to the property. All the documentation will be compiled into a removal crew packet. Final designs will include removal areas based on the results of inspection activities and sample analytical results as well as notes collected by the CMT during the removal evaluation and by the PCT during the RRA Meeting with the property owners. The drawings will also depict the locations and volumes of LACS in the removal areas as identified in the investigation process. Restoration drawings will depict backfill material placement required by restoration agreement, investigation notes, CMT evaluations and property owner requests.

Final Designs will include:

- The correct last name of the property owner
- Correct E911 Address
- Associated GeoUnit, AD, BD Numbers

- A Scale and North Arrow
- Removal Areas, hatched in a pattern corresponding with associated excavation depths and restoration materials as shown within the legend of the removal or restoration design
- Required site controls specific to the site including, but not limited to, location of decontamination equipment, Contamination Reduction Zones, and designated smoking areas
- A table showing estimated removal areas and volumes
- A restoration design to return the property to its pre-removal condition
- Drawing date
- Construction notes and specifications unique to the property
- Name of removal foreman performing the Preliminary Removal Evaluation
- Designer's name
- QC reviewer's name
- Investigation Team reviewer's name
- Govemment Representative's signature

Copies of the site-specific work plan will be made available to the CMT. A copy designated to stay on-site at all times will be marked as the QC copy. Final designs will be marked "FINAL" on the design. Except for the signed site-specific work plan, all previous drafts of the design will be archived or discarded. Only the signed final design and the original GPI drawing will be used in the field during the removal process. Field removal plans are discussed in section 2.6.2.

3.4.10. Exterior Draft Red-line Drawing

The Exterior Draft Red-line drawing will be generated by TQA as part of the clearance sampling process and then submitted to the Design Team. Removal area will be calculated by the Design Team, and the data transmitted to the PCT for inclusion on the PCC and in the RCD. The TQA will use the final removal design drawings to document the final removal areas in their draft Red-line drawing that accompanies the PCC. The drawing will be submitted by TQA within 10 business days of property completion to the PCT.

Draft PCC Red-fine drawings submitted by the PCT to the Design team will be utilized to produce the Final Excavation Plan Red-line(s) that depict the location and boundaries of clearance sample locations, areas not excavated due to constmctability concems, and other changes to the design due to conditions encountered during the removal process.

The Design team will place the clearance sample locations on the final red-line drawing(s) and prepare a sample location table for incorporation. The design team will then submit a table of the sample location points in a Lat-Long format to the Data

management team for upload to the EPA's Scribe.net database. The Design Team will submit completed Final Excavation Plan Red-line drawing(s) to the PCT.

3.4.11. Interior Post-removal Sketch

After interior removal actions, TQA is responsible for the generation of an interior post-removal sketch as discussed in Section 9.6.9. Upon request, the Design Team will provide TQA with a footprint of the structure for documenting the removal. The Interior Post-removal Sketch will be submitted to the Design Team after the completion of the interior removal as part of the PCC package. The Design Team will ensure that the removal is accurately communicated on the Final Interior Red-Line before submitting it to the PCT for submission to the Records Center Manager.

3.4.12. Design Daily Reporting Requirements

The Design Team will fill-out and submit the Design DQCR form daily. The form will be delivered to the CMT before the commencement of business the next day, and will be included in the Site DQCR.

4.0 Interior Removal and Restoration

4.1 Roles and Purpose

The RC will remove vermiculite and LACS from residential, commercial, and industrial properties in accordance with the removal and clearance criteria established by EPA. If the vermiculite contaminated area may be accessed and disturbed under normal conditions, such as in attics, it will generally be removed. If the insulation is well contained and will not be disturbed under normal conditions, such as in walls, it will generally be left in place. If vermiculite is left in place in an area, any openings through which the vermiculite may enter the living space, such as electrical outlets or light fixtures, it will be sealed off to prevent exposure.

The RC will furnish all labor, supervision, materials, equipment, tools, and incidentals necessary to perform all vermiculite and understructure LACS removal activities.

If a resident or business owner indicates to EPA that they will remodel a portion or all of a structure immediately following a removal, and have specific plans in place to do so, EPA may decide to remove vermiculite from certain areas of the structure slated to be remodeled not usually qualifying for a removal in order to facilitate the remodeling effort without risking additional contamination of the property due to improper demolition. Property ovmers may also contact EPA about future plans to remodel an area and request an inspection and potential removal of vermiculite from walls even if no other interior removal has been scheduled or may be required. In the past such requests were treated as an ERS action item and were often called in during the winter when interior removals are much more difficult. To facilitate better project planning and reduce or eliminate winter work, ERS personnel will encourage property owners to perform their renovations during the normal field season so the ERS can be worked into the normal interior removal schedule. Vermiculite will only be removed from those areas impacted by the remodeling and no compensation will be given nor restoration performed (e.g., walls will be removed dovm to the studs, cleaned, and cleared, then the property owner will complete the remodeling, including the replacement of all wall material).

4.2 Removal Contractor Competent Person Documentation

The RC is responsible for having a Designation of Competent Person Form that designates a competent person for each work safety category listed (at a minimum:

asbestos critical barriers, excavation safety, scaffolding, confined space, and fall protection). The Competent Person Form is to be on-site in the RC's office at all times of removal and restoration activities.

4.2.1. Health and Safety Requirements

The RC's Site Health and Safety Officer (SHSO), QC, and competent person are each responsible for providing regular and frequent inspections of removal activities, including preparation, removal, and restoration activities of interiors, to ensure that appropriate precautions are implemented to protect public and worker safety. These inspections are to be documented by QC and TQA and the RC's SHSO and will be included in the DQCR. Any and all safety issues and other constmction issues will be discussed during the Daily Close-out Meeting at the end of each day.

In addition, the RC is responsible for completing an Activity Hazard Analysis (AHA) form for each phase of removal or restoration when the removal requirements of that property fall outside activities addressed in the base interior removal AHAs. Site activities requiring competent person approval will have specific AHAs developed for that activity at that site.

Required levels of respiratory protection for project-related activities are provided in the APP. The RC is required to provide a PPE training program for personnel, and will have certification of completion of that training, fit test documentation, and medical surveillance program documentation for each worker dressing out in respiratory PPE.

4.2.2. Subcontractor Activities

The RC is responsible for any project work performed by its subcontractors, if any, including pre-work activities, site preparation, site removal, and site restoration activities. The RC is responsible for ensuring that its subcontractors adhere to all applicable federal, state, and project requirements and guidance documents, including the APP, site-specific work plans and this plan.

4.3 Pre-Work Activities

Before beginning any site preparation activities, the interior foreman is responsible for:

- Conducting an Interior Preparatory Removal Evaluation (PRE) along TQA personnel and thoroughly documenting the site's existing conditions, including but not limited to: existing feature damage, existing stmcture material damage and operability of utility systems within designated work zones. The interior foreman is to complete the Interior

PRE form and submit completed forms to the PCT. Modified Level C PPE may be utilized when the inspector enters interior areas known or suspected to be impacted with venniculite or LACS.

- As part of the Interior PRE, TQA and the interior foreman will determine the design-build plan for removing vermiculite. The extent and process of the removal will be documented on the Interior Design Build form and submitted to the Design Team after removal activities are complete. The Interior PRE should be performed as close to the RRA meeting as possible to allow sufficient time for scheduling.
- The interior removal foreman will inspect equipment pathways and placement areas, changes in conditions that could result in the presence of LA after prior investigations were completed, an inspection of all interior areas and exterior areas that suround those areas and an inspection of access points to removal areas. Foremen are to complete an Interior PRE form to assess the number of days, material, and equipment to be used for the removal activities.

Pre-existing conditions identified and documented by TQA and the Interior Foreman or the Investigation Team will be discussed with the USACE on-site representative, the CMT, and the PCT to determine the need to modify removal activities and site specific work plans. Any significant restoration plan changes or existing site conditions that may require Hold Harmless releases will be coordinated with the property owner, USACE and EPA (if necessary), prior to proceeding with the removal activities.

If the power must be dropped in order to perform the removal and cannot be re-energized without significant upgrades to code of the existing system, the homeowner will be notified that the removal cannot proceed unless they sign a Hold Harmless Agreement accepting the responsibility for re-energizing their power.

4.4 Documentation

Photo and video documentation of the interior living space is the responsibility of the PCT. The removal areas will be photo-documented by removal crews and TQA prior to, during and after the removal activities, as well as after restoration. The interior living spaces will be documented by the PCT. Photos taken by the removal crews will be delivered to the PCT upon completion of the removal and restoration.

TQA is responsible for photo-documenting the work activities of the RC interior removal and restoration crews.

4.5 Site Preparation

4.5.1. Preparatory Phase Inspection

No inspections or work activities will be performed without a finalized work plan on-site. A finalized work plan includes a copy of the interior investigation data, signed RRA and the hiterior PRE.

Prior to the start of any work activities at the site, TQA, QC and the RC interior foreman will hold a preparatory phase inspection to review site remediation activities and to ensure that RC interior removal personnel and TQA personnel have consistent and current site-specific work plans and design-build plans. Additionally, imminent hazards identified will be evaluated to determine if corrective actions are necessary, and will be noted on the AHA. The site will be inspected by QA and QC personnel to ensure that the requirements presented in Section 4.5 are upheld.

4.5.2. Removal Contractor Site Preparation Requirements

The RC will be responsible for maintaining these aspects of site preparation, and all appropriate safety precautions, throughout the duration of removal and restoration activities. A complete list of site preparation details are described as follows:

- Implementing safety precautions, including use of appropriate PPE;
- Using appropriate engineering controls to prevent contaminant migration as a result of remediation activities;
- Implementing and maintaining dust control to a standard of no visible dust emissions from the site throughout the duration of site activities, from site preparation through restoration, in accordance with Montana Code Annotated (MCA) Tide 75 (Environmental Protection), Administrative Rules of Montana (ARM) Titie 17, and National Emissions Standard for Hazardous Air Pollutants (NESHAP) asbestos regulations (40 Code of Federal Regulations (CFR) Part 61);
- Ensuring that all vacuums used on the project have HEPA filters that meet the definition as stated in Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1926.1101(b). The RC will provide HEPA filter documentation for each manufacturer's model of vacuum. The RC will document the regular maintenance (e.g., changing of HEPA filters) performed on all vacuums, making this documentation available upon request;
- Ensuring that all attic accesses are of adequate size (i.e., a minimum of 18 inches by 18 inches) for personnel and equipment ingress/egress and that all access systems (ladders, scaffolds, etc) are in compliance with USACE EM 385-1-1 (2008);
- Providing temporary electric power and potable water for the duration of site activities;
- Ensuring that all appropriate Lock-out/Tag-out (LO/TO) procedures, in accordance with project, OSHA requirements, including OSHA Standards 29 CFR 1926.416 and 29 CFR 1926.417, and USACE EM 385-1-1 Section 12 Control of Hazardous Energy, are implemented for a stmcture's electrical sources throughout the duration of site activities;
- Ensuring electrical safety throughout the duration of site activities as required in all applicable OSHA Standards, including 29 CFR 1926 Subpart K and USACE EM 385-1-1, Section 11, Subpart E. All activities with the potential to be performed within 10 feet of energized electrical hnes must be evaluated as part of the site AHA by the RC, and appropriate precautions must be implemented before remediation work may begin;

- No upgrading of pre-existing substandard wiring will be performed. If substandard conditions exist, the property owner will be notified of the need to make the required improvements. If conditions are identified prior to the start of removal activities the property owner will be notified before starting work to ensure that they know they may face the cost of potential upgrades to the system if it is disturbed by the removal or restoration activities and to ensure that they wish to proceed with the removal action. If substandard conditions are encountered during work that pose a risk to the contractor or potentially to the stmcture and the property owner, the contractor will terminate work prior to disturbing the wiring and will notify the USACE on-site representative;
- Ensuring that only licensed electricians perform electrical repair work or disconnections and reconnections of all electrical circuits. Electrical repair safety requirements are to be perfonned in accordance with USACE EM 385-1-1 Section 11 Electrical (2008);
- Ensuring that only licensed plumbers or qualified persons perform plumbing repair work at a site;
- Ensuring that only licensed personnel perform repair work on gas, propane, or oil lines at a site;
- Identifying and posting residential traffic and pedestrian points of hazard with legible traffic signs, in accordance with OSHA Standard 29 CFR 1926.200(g)(1), throughout the duration of removal and restoration activities as applicable;
- Providing site signage in compliance with Department of Transportation (DOT) regulations, including temporary stop signs when necessary;
- Identifying and evaluating any existing residential mechanical equipment within the work zones, isolating or removing any potential hazards;
- Placing/staging removal equipment such as, but not limited to, vacuum machines, vacuum boxes, decontamination trailers, and water storage tanks in a manner that minimizes inconvenience and risk to the public;
- Keeping all sidewalks and other public access pathways free of equipment during non-work hours, or providing a sufficiently permanent barrier to prevent pedestrian or vehicle access. Blocked pedestrian or vehicle access pathways will require rerouting by the RC in accordance with OSHA Standard 29 CFR 1926.200(g)(2);
- Securing sites to prevent children and pets from accessing work areas during work and non-work hours;
- Demarcating exclusion zone boundaries and posting ingress/egress points with appropriate asbestos and PPE signage, in accordance with OSHA Standard 29 CFR 1926.1101(k)(7)(i) and USACE EM 385-1-1, Section 28. All removal activities will be conducted within an appropriately designed exclusion zone. The exclusion zone containment may only be removed after final clearance sampling has been performed and non-detect results have been received;
- Ensuring that proper work zone containment, negative air control and air monitoring required under OSHA Standard 29 CFR 1926.1101(g)(5) and OSHA Standard 29 CFR 1926.1101(g)(5)(i)(A)(2), are employed (With EPA and USACE approval, negative air machines may on secondary stmctures may be powered down over nights and weekends, except on Class I abatements);
- Demarcating support zone boundaries with orange fencing and yellow caution tape;
- Demarcating waste load out, personnel, and equipment pathways as part of the exclusion zone;
- Protecting all areas of the property where work activities are performed from inclement weather by implementing any reasonable safeguards necessary during removal and restoration activities;

- Ensuring that uninterrupted power is supplied to any refrigerators, freezers, or other items identified in the site-specific work plan or as directed by the USACE on-sight representative;
- Ensuring that all flammables are properly containerized and stored and that proper flammable, no-smoking, and other required signage is in place
- Providing fire extinguishers, in accordance with OSHA Standard 29 CFR 1926.150(c)(1)(VI), throughout the site's work areas including, but not hmited to, the exclusion zone, decontamination facility, at any flammable hquid or fuel use area, and on each piece ofconstmction equipment;
- Using all necessary precautions to ensure the stmctural integrity of the building is maintained during remediation activities;
- Repairing, replacing in kind, or providing compensation for all items damaged during remediation activities.
- Protecting site utility piping from freezing conditions and sensitive property features against weather elements. If freezing temperatures are expected, negative air machines may be tumed offiduring non-work hours once bulk removal is complete, with prior approval of TQA, the Site Health and Safety Officer (SHSO), and USACE;
- Adhering to all fransportation and disposal requirements stated. All Asbestos Containing Material (ACM) generated during removal activities, with the exception of soil, will be disposed of as ACM. Reasonable precautions will be taken to ensure that no polyethylene sheeting or PPE of any kind is to be disposed of at the mine site repository;
- Developing a handling plan for the collection, storage, transportation, and disposal of liquid waste generated at remediation properties;
- Implementing pollution control measures throughout all site activities;
- Inspect soffits, particularly those components adjacent to any external vents, to determine the presence of vermiculite.

4.5.3. Protection of Existing Features

The RC will protect existing wiring, plumbing, and mechanical features existing in the residence or structure of the property. The RC will be responsible for protecting existing features and systems of the property that are to be left in place. The heating, ventilating, and air conditioning (HVAC) system should be rendered inoperable, sealed, and isolated to protect it from contamination during removal and restoration activities, in accordance with OSHA Standard 29 CFR 1926.1101(g)(4)(III). All appropriate LO/TO procedures are to be implemented for HVAC, other mechanical systems, and electrical systems before the start of site work and throughout the duration of removal activities.

The RC will protect electrical wiring located in the site's work areas throughout the duration of remediation activities.

4.5.4. Containment Setup

The RC will construct an exclusion zone inside the designated work area to ensure the health and safety of the workers and public. Prior to installation of the containment, the

contractor will perform additional investigation of the space to determine if additional vermiculite not noted on the initial investigation is present. The contractor's asbestos competent person and/or TQA will evaluate the exclusion zone and critical barrier construction during the initial inspection and will approve it prior to the start of removal activities. No adjustment to the exclusion zone will occur without the prior approval of QA and competent person. Any adjustment will be documented in the TQA QAR and QC documentation.

The RC is responsible for inspecting the designated containment areas to ensure that any penetrations that vermiculite or other contaminated materials may escape from or leak into as a result of remediation activities are identified and permanently sealed. The contractor will also inspect below any knee walls, subfloors, and/or soffits accessible from the attic, addition tie-ins, etc., to ensure that no additional venniculite is present in those areas.

If vermiculite is found in the soffit, and the soffit is inaccessible, the integrity of the soffit system and the potential for leakage from the venting will be evaluated to determine if soffit demolition is necessary for the removal of vermiculite. Non-leaking soffits, determined to be in good condition without the potential for a release of vermiculite, will be treated as a sealed system equivalent to a wall. The presence of vermiculite will be noted by TQA, with no additional action other than potentially sealing portions of the system. If the soffit is deteriorated and it is likely that failure and release of venniculite will occur at some time in the future, USACE will be notified to determine the course of action which may include demolition of fhe soffit with possible replacement.

TQA will fully document areas to be removed. The contractor will also inspect the area for any un-documented pre-existing moisture or other damage, inadequate wiring, etc. The contractor will photo-document all pre-existing damage, problems and potential problems and will offer potential solutions to any problem observed during removal.

The RC will design a negative pressure enclosure (NPE) encompassing the exclusion zone to isolate the removal activities and prevent unwanted structure migration. The NPE will be constructed according to OSHA requirements, including OSHA Standard 29 CFR 1926.1101(g)(5). All critical barriers such as, but not limited to, exposed vents, grilles, and windows inside of the work area must be HEPA vacuumed before being sealed.

The RC will place the NPE under negative pressure by installing HEPA-equipped negative air filtration units. HEPA air filtration units are to achieve a minimum of four air exchanges per hour, in accordance with OSHA Standard 29 CFR 1926.1101(g)(5)(i)(A)(2), and are to be placed in a manner that pulls contamination away from the worker's breathing zone. HEPA air filtration units will be exhausted to outside air rather than into another part of the building, unless otherwise approved by USACE.

Asbestos warning and PPE requirement signs, in accordance with OSHA Standard 29 CFR 1926.1101(k)(7)(ii)(B), will be posted by the RC at all ingress and egress points of the exclusion zone so that site personnel may read the signs and be aware of necessary protective steps before entering the exclusion zone.

The RC will install an overlapping entrance feature at ingress and egress points using two layers of 6-mil fire-retardant polyethylene sheeting to allow passage into the NPE while minimizing migration of contaminants to the outside. Designated protective suit change-out stations will be required to prevent cross-contamination if accessing the designated containment area through a clean living space or loading out ACM waste.

The RC will provide adequate lighting within the work areas, in accordance with OSHA Standard 29 CFR 1926.56(b).

The RC will address any potential fall hazards within the work areas, in accordance with OSHA Standard 29 CFR 1926.501 and USACE EM385-1-1 Section 21.

The RC will build containments of sufficient size to allow for proper work safety practices (e.g., use of Tyvek change-out stations), extending the containment beyond the contaminated area if necessary.

The RC competent person is responsible for inspecting and maintaining the designated containment areas to ensure they are of sound construction and functioning as designed until final clearance criteria are met. The TQA is also responsible for regular inspection and documentation of the condition and proper functioning of the containment areas.

The RC is responsible for ensuring that all appropriate ACM handling procedures are implemented and in accordance with OSHA Standard 29 CFR 1926.1101(l)(2).

Once the exclusion zone has been approved by all responsible parties, all personnel entering the exclusion zone must wear the appropriate Level C PPE for their assigned task.

4.5.5. Personnel Decontamination

The RC will establish a properly demarcated, HEPA-filtered, 3-stage decontamination trailer or equivalent consisting of an equipment room (dirty room), shower area, and a clean room for personnel decontamination, in accordance with OSHA Standard 29 CFR 1926.1101(g). Personnel decontamination procedures must be posted in the clean and dirty rooms so that personnel may read and take necessary steps to ensure their safety. The RC must perform regular housekeeping duties within all decontamination facility rooms to ensure and maintain their cleanliness. Documentation of such housekeeping will be posted in the clean room of the decontamination facility and made available to USACE or EPA upon request.

The RC is responsible for maintaining a 3-stage decontamination facility onsite until clearance results meet removal clearance criteria.

The RC will use potable water for all personnel decontamination, in accordance with OSHA Standard 29 CFR 1910.141(b)(1)(i). All potable water delivery systems must be disinfected on a regular schedule, with greater frequency during the summer months. The RC will include disinfection of its potable water systems in their weekly schedule. Documentation of potable water equipment inspections and disinfections must be maintained by the RC, made visible to personnel using a particular water source, and provided to USACE and the EPA upon request. Wastewater generated from personnel decontamination may be used to wet contaminated site soils on properties where a combined exterior and interior removal is being performed. Otherwise wastewater must be disposed of at the Landfill, Mine, in an exterior removal zone or passed through a 20- and 5-micron filter and disposed of as sanitary waste. The RC will set up one decontamination facility for each property or group of properties if the properties are contiguous.

4.5.6. Equipment Decontamination

The RC will be responsible for decontaminating or disposing of any equipment or materials used for removal activities within the exclusion zone. Items undergoing decontamination will be hosed off, wet wiped and/or HEPA vacuumed and inspected by

QC or TQA before leaving the exclusion zone. The inspection will be documented. Items to be disposed of will be bagged and handled as ACM before leaving the exclusion zone.

At the end of the construction season or before being taken off use from the project, the RC will remove, replace, and dispose of any air filters (e.g. air-intake, cab, etc.) from the industrial vacuum as ACM. Filter removal will be performed at the Landfill. Filter removal and disposal will be documented by the RC on the Decontamination Checklist. The Decontamination Checklist will be verified and signed by TQA. USACE will be notified by the RC before any heavy equipment is removed from project service and by TQA when its decontamination is completed.

Negative-air machines and all portable equipment (pumps, pressure washer, etc.) that enters the exclusion zone will have their air filters replaced at the time of normal maintenance or the end of the construction season. The RC will document the filter removal and replacement and dispose of the old filter as ACM.

USACE reserves the right to verify decontamination activities and standards before moving the equipment between properties or before demobilization of a piece of equipment.

4.5.7. Moving/Cleaning of Household Items

The RC will HEPA vacuum and/or wet wipe all items within the designated containment areas identified during removal activities. All items that are in contact with vermiculite will be cleaned or disposed of by the RC as stated in the site-specific work plans and replaced in the containment area prior to clearance sampling. All removal of household items from the removal area requires prior notification of the property owner, approval by USACE and EPA, and documentation by TQA personnel including photo documentation of all items if appropriate.

4.6 Vermiculite Removal from Attics

4.6.1. Design-build Interior Removals

Interior removals will be performed using an on-site design-build program and documenting the process on the Interior Design-build form. When vermiculite is observed in an interior, the investigation team will document its location. Instead of generating a design for the removal, the remedy will be determined in the field by the interior foreman and TQA, using the guidelines in Section 4.6.2. Instances of

disagreement between the interior foreman and the TQA will be resolved by the CMT and the USACE representative. The final remedies will be documented by TQA in the daily QARs and in the Final Interior Red-Line Sketch.

4.6.2. Interior Removal Guidelines

The following are the interior removal guidelines:

- Dust samples above the action level will result in an interior clean of the living space. Collection of interior dust samples is no longer part of the interior sampling protocol.
- Areas where removals are anticipated will be sealed off from other areas and from the exterior prior to performing removal activities.
- Vermiculite in the attic area will result in the cleaning of items that shared airspace with the vermiculite. Items removed from interior spaces will be protected until they can be retumed.
- Vermiculite in the attic area will result in the removal of all insulation that shared airspace with the vermicuhte.
- Vermiculite in the attic area will result in a detailed clean and encapsulation apphcation to all areas that shared airspace with the vermiculite.
- Gaps from areas of contamination to other areas such as utility corridors, living spaces and outside will be sealed with caulk, spray foam insulation, concrete or other appropriate material. A detailed cleaning will be performed in these areas as needed.
- Contamination in inaccessible areas will be left in place. A knee wall may be constmcted around these areas to ensure that contamination remains in place. In tight spaces, such as eaves, foam may be used to seal those areas where contamination cannot be removed.
- If attic insulation is removed in houses, it will be replaced with insulation with an R49 insulation factor or to an insulation factor equivalent to what was in place prior to the removal (if greater than R49).
- An 18" x 18" access is the minimal dimensions required for ingress/egress to interiors. A second, smaller access is required for the negative air hose. Property owner approval will be obtained prior to enlarging existing access or for creating a new access.
- Minor demolition work is often required to access contamination. If visible demolition work is necessary, approval from the property owner will be obtained specifically for that demolition.
- After removal activities, the areas will be sampled to ensure that the contamination pathway was eliminated. The property owner may retum only after the analytical resuhs show that the contamination has been removed and the presence of exposure pathways within the area have been eliminated.
- Shotcrete may be applied to contaminated areas that are not horizontal (i.e. walls with vermiculite building aggregate).
- Pre-existing damages may be encountered before and during the removal process. The property owner will be made aware of these conditions as they are discovered. Some conditions may impede restoration activities, such as poor or not to code wiring, poor ventilation or mold in areas where insulation will be installed. The property owner will be allowed to address these issues before insulation is installed. USACE and its contractors will not be responsible for problems arising from pre-existing conditions.

4.6.3. Sealing of Penetrations

In structures undergoing remediation activities, the RC must inspect all living space areas to determine if vermiculite has leaked into outlets, switches, light fixtures, ceiling fans, electrical boxes, vents, and any other penetrations. The RC must provide results of the inspection to TQA personnel for inclusion in the QAR.

If any vermiculite was observed in an area, all penetrations of that area's air space must be cleaned and sealed by the RC with flame-retardant, project-approved foam sealant or caulk that provides a colorless or clear finish. The RC will seal all penetrations that are in direct contact with source material. Vermiculite observed within the penetrations will be cleaned prior to sealing.

All penetration covers are to be removed by the RC and will remain off until TQA has inspected the areas.

4.6.4. Bulk Removal

The RC will perform bulk removal of vermiculite in attics, as identified in the site-specific work plans, using a HEPA-equipped vacuum. All bulk removal activities will be conducted with proper engineering controls and work practices to ensure personnel safety and removal success. Adequate dust suppression must be maintained throughout the duration of bulk removal activities. Dust suppression may be achieved by using adequate amounts of potable water through automatic misters, airless sprayers, or Hudson sprayers. Amended water may also be used if necessary. Water usage will be carefully controlled by the RC to ensure that property damage does not occur. Water usage will be documented in the QAR.

The RC will use proper work practices such as good housekeeping, strategic cleaning from clean to dirty, and proper planning to create a safe and productive work environment during bulk removal activities. The RC will also employ administrative controls, such as limiting the number of personnel and the amount of unnecessary vacuum hose in the NPE, to minimize particulate levels. The RC will remove other insulation, such as, but not limited to, fiberglass or cellulose, if it is in contact or shares airspace with existing vermiculite.

Once the interior foreman determines that bulk removal is complete, work will proceed to detail cleaning. The interior foreman is responsible for ensuring that appropriate

respiratory protection and engineering controls are maintained when transitioning between bulk removal, blocking, encapsulation, and detail cleaning activities.

4.6.5. Detailed Cleaning

The purpose of the detail cleaning is to remove any remaining insulation from cracks and crevices.

Once the Interior Foreman performs a quality control inspection of the work area and determines detailing activities are complete, and that all cleaning activities have been performed according to project removal criteria, the RC may implement encapsulation on non-finished areas (or finished areas where the property ovmer has agreed to it) and then request a final clearance sample from TQA personnel.

If TQA personnel arrive and identify through a visual inspection of the removal area that removal activities have not been completed to acceptable levels for collection of clearance samples, additional detailing will be performed by the RC.

If the interior foreman has repeated problems attaining the proper level of detailing prior to calling for TQA sampling, TQA may be tasked with inspecting interior detailing prior to encapsulation until deficiencies are rectified.

4.6.6. Blocking

Blocking activities are to be performed only with prior approval from TQA and the interior foreman.

If there is vermiculite in a particular area that is determined by TQA and the Interior Foreman to be inaccessible through non-destmctive abatement activities, the RC may construct a suitable permanent barrier or blocking to prevent future access to venniculite contaminated areas. Blocking is to be installed in a manner such that moisture does not build up in insulated areas.

Blocking material in non-living areas may consist of 1-inch Styrofoam Brand closed cell polystyrene insulation, foam, plywood, or an equivalent, as determined by TQA and the interior foreman. Blocking materials in living space areas will consist of replacement-in-kind materials or rigid sheeting (i.e., ½-inch plywood or equivalent).

Existing ventilation pathways will not be completely blocked. If ventilation pathways must be blocked, altemative methods of ventilation will be evaluated and agreed on by TQA and the Interior Foreman.

USACE approval will be necessary for blocking or knee-walls that may affect ventilation. Additionally, the property owner will be notified of the change in conditions.

TQA persomel will verify and document that the appropriate blocking was performed by the RC as described in Section 4.2.

4.6.7. Encapsulation

The RC may apply colorless encapsulant in non-living space removal areas when detail cleaning is completed as determined by TQA and the interior foreman.

The RC will use a project-approved encapsulant. The encapsulant will be applied aggressively to all accessible removal area surfaces by using an airless sprayer, and may be performed in conjunction with a 1-horesepower leaf blower to ensure proper dispersal. The purpose of the encapsulant is to "lock down" any remaining asbestos stmctures and prevent them from becoming afrbome should they be disturbed at a later date. The RC will ensure that sufficient encapsulant is used to adequately lock dovm any remaining asbestos stmctures.

If vermiculite or other material becomes dislodged during the application of encapsulant, the RC will remove this material before the encapsulant dries and before final air clearance samples are collected.

The RC is responsible for using sufficient care during application of encapsulant to prevent any damage to direct and indirect areas of the stmcture.

4.6.8. Ventilation and Pre-Exdsting Damage Post-Removal Inspection

Pre-existing damage identified by the Investigation Team, TQA or interior removal persomel, resulting from ventilation issues, sub-standard constmction, water damage, or infestation, such as mold, rotting, or termite damage, will be documented on the Pre-existing Conditions Form by the RC. The PCT will notify the property owner and the USACE on-sight representative of the pre-existing conditions. No additional

compensation or reparation will be considered, performed, or provided to the property owner for damaged interior components.

If a pre-existing condition is discovered during the removal action, the property owner will be contacted. If the property owner indicates that the repairs will take place in an area of known contamination that was not included in the removal design, the property owner will indicate approval of the change by initialing the removal design or the punch-list tracking sheet so removal crews may clean the area where the repair is to occur.

USACE approval will be necessary for blocking or knee-walls that may affect ventilation. Additionally, the property owner will be notified of the change in conditions.

4.6.9. Building Material Demolition

Any demolition required to access and remove vermiculite will be detailed in the QAR. The property owner will sign documentation authorizing any and all visible interior demolition. Intrusive demolition will require authorization by USACE. Demolition may consist of cutting, sawing, or other intrusive activities used to access venniculite for removal. The RC will also inform TQA personnel of any demolition requirements that are identified during the course of the removal. TQA will document the changes on the QAR and the Final Interior Red-Line Sketch.

The RC's interior foreman and SHSO will evaluate demolition work to ensure that the required engineering controls and work practices necessary to perform the job in a safe manner have been properly implemented.

All interior demolition activities must be perfonned with point-of-cut ventilated power tools. All tools and equipment used by the RC to perform demolition activities must be approved by the SHSO and USACE. Engineering controls to minimize particulate levels, such as construction of mini enclosures to isolate demolition activities, use of automatic misters, and use of HEPA-equipped local exhaust ventilation, may be instituted upon approval from the SHSO, TQA, and the USACE representative.

Building materials known or suspected to be impacted with LA will be disposed of as ACM. Before transporting impacted building materials for disposal, the RC will prescreen the waste for oil, other contaminants, and any other criteria that may affect acceptability at the facility. Any unacceptable material found during the prescreening process will be removed from the waste stream by the RC and documented.

Disposal of household hazardous wastes and other hazardous materials is the responsibility of the property owner. If any hazardous materials are noted during site preparation, the property owner will be required to remove it from the work area prior to establishment of the exclusion zone.

The USACE on-site representative will be notified in the rare case where hazardous material(s) are encountered during a demolition that must be addressed by the project team. Proper waste characterization and documentation will be prepared and submitted to USACE for approval before any hazardous waste is manifested and transported off-site. Disposal of hazardous waste and materials will take place only at facilities licensed to accept such wastes in accordance with state and federal regulations. The govemment will sign any hazardous waste manifests prepared by the RC.

Upon approval by USACE, non-contaminated building materials comprised of wood, glass, and/or metal removed during the removal activity will be transported for disposal at the Lincoln County Landfill solid waste facility. Loads will be documented for tipping fee reconciliation. Other building materials will require asbestos sampling before disposal at the solid waste facility.

The RC will process demolition debris for disposal at the Landfill into relatively small pieces, such that the debris passes through the tailgate of a dump tmck, can be covered with 6 inches of daily cover soil, and can be compacted in place by the Landfill operator.

4.7 Vermiculite Removal from Areas Anticipating a Remodel

As determined by USACE, vermiculite may be removed from certain contained areas, such as, but not limited to, walls, floors, and ceilings, when the property owner intends to remodel their home or business immediately following the removal or where building materials are in extremely poor condition.

The RC will adhere to the procedures detailed above when removing vermiculite from areas to be remodeled. No compensation will be given.

4.8 Vermiculite and LACS Removal from Understructures

4.8.1. Characterization of Understructures

Contaminated material removal to be performed in understmctures will be evaluated in tne Interior PRE.

Reruediation of understructures will be based on the guidance determined by EPA, as outlined below. However, an alteruative remediation approach may be necessary in special circumstances as determined jointly by the design and construction teams during the final design process, and must be approved by a goverument representative prior to implementation.

The understructure of a building includes the substructure or foundation of the building, and is typically enclosed. Building understructures may be habitable or inhabitable, and in general at least partially below the surrounding ground surface (except in the case of a mobile home). Understructures may be comprised of one, or a combination of the following items:

- Basement (finished, partially finished, or unfinished)
- Cellar
- Crawlspace
- Area below a mobile home

The area below small, mobile structures (e.g. shed) is not considered an understructure. Understructures require special consideration as they often contain low headspace and thefr utilization is highly variable. The priruary consideration for determining the protocol for understructures is the frequency of access and type of activities conducted in the area.

The Investigation tearu will determine the type of understructure and frequency of access/use. Frequency of use will be determined by how often an understructure is accessed, and the type of activity being conducted during each use. In general, understructures will be considered infrequently accessed if they are accessed on average no more than once ruonthly, and the activities being conducted involve minimal soil disturbance. Understructures that are accessed on average more than once monthly, or if activities during access include significant soil disturbance (e.g., digging), will be considered frequently accessed.

4.8.2. Design / Reruediation Criteria

Understructures with no exposed soll surface will be considered part of the building living space. Remediation will be handled similar to all other living spaces (e.g. interior cleaning and clearance if vermicuhte is observed), regardless of frequency of use.

The remediation approach for building understructures with exposed soil surfaces will be based on the understructure type and frequency of use as outiined below.

1. The following design criteria will be used for understructures that are accessed on a frequent basis, and contamination is due to significant quantities of vermiculite leaking from the attic/walls, evidence of vermiculite on the surface of or contained in the soil matrix, or soil results indicating detectable levels of Libby Amphibole (LA):

- All areas where vermicuhte insulation is leaking from will be cleaned and sealed.
- All significant quantities of vermiculite insulation on the surface of the soil will be removed.
- All exposed soil areas will be encapsulated with hard surface capping material (sand/slurry mix concrete or shotcrete). If hard surface capping is not feasible due to safety/accessibility concerns, high-density polyethylene sheeting with a minimum thickness of 20 mils will be used to cover all exposed soil areas. A government representative must approve the use of this alternative cappiug material prior to placement.
- As an alternative to encapsulation, areas with exposed soil surfaces may be isolated from other areas of the understmcture when possible. Isolation will consist of permanent barriers (e.g. plywood walls) including designated access points (e.g. hatch/door) to accommodate limited maintenance that may be required within the isolated areas. A govemment representative must approve the isolation of understmcture areas prior to installation.
- All work will be perfonned under full containment and will require a full interior cleaning with final air clearance. Areas of the understructure that have been isolated, as described above, will not require cleaning and clearance.

2. The following design criteria will be used for understructure areas that are accessed on a frequent basis, and contamination is limited to small amounts of vermiculite insulation leaking from the attic/walls:

- All areas where vermiculite insulation is leaking from will be cleaned and sealed.
- Vermiculite insulation that has leaked onto the surface of the soil will be removed.

3. The following design criteria will be used for understructure areas that are accessed on an infrequent basis:

- All areas where vermicuhte insulation is leaking from will be cleaned and sealed.
- Vermiculite insulation that has leaked onto the surface of the soil will be removed by excavation, vacuuming or other govemment approved method.

- If soil sample results indicate greater than trace amounts of LA or if widespread vermiculite is observed throughout the understmcture, poly or HDPE sheeting may be installed over safely accessible areas of the soil floor that are used for access, storage, and maintenance activities. The determination to install poly sheeting will be made jointiy by the design and constmction teams, and will be based on access.
- If the understmcture is an area beneath a mobile home, solid skirting (e.g. vinyl, plastic, wood, etc) may be installed to lunit access to the area.
- No further remediation will take place at this time. All inspection information will be documented for future O & M purposes.

"Small amounts" of vermiculite insulation will be defined as vermiculite insulation leaking from no more than 3 distinct locations, with vermiculite distributed over no more than 9 square feet below each leak. Vermiculite insulation observed in amounts exceeding the aforementioned standard will be considered a "significant amount/quantity".

The RC will ensure that planned removal efforts protect and maintain the integrity of all foundation and support system features within crawlspaces.

4.8.3. Application of Concrete or Shotcrete

The RC may be required to apply concrete or shotcrete as a means of encapsulating remaining LA contamination within soils or walls that are difficult to access or remove. Such applications will be documented by TQA in the QAR and perfonned by the RC.

4.8.4. Confirmation Soil Sampling

Once the RC has completed removal of all gross visible vermicuhte, all soil contaminated with visible venniculite, and all LACS, TQA will be notified to facilitate inspection and collection of confirmation samples. Confirmation sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b).

Details regarding action levels and clearance criteria are found in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. Action levels and clearance criteria are subject to revision by EPA.

4.9 Vermiculite and LACS Removal from Secondary Buildings and Structures

4.9.1. Definitions

Secondary buildings are defined by having four walls and a roof, a fully-enclosed design, and being large enough for human entry. Examples of secondary buildings may include, but are not limited to, garages, shops, barns, sheds, enclosed lean-tos, pump houses and larger animal houses.

Secondary stmctures are defined by being designed to be open or by being small and/or mobile (not large enough for human entry). Examples of secondary structures may include, but are not limited to, carports, open lean-tos, some pump houses (mobile and/or not large enough for human entry), dog houses, or other small animal housing.

Once the RC has completed removal of all gross visible vermiculite, all soil contaminated with visible vermiculite, and all LACS to designed depth, TQA will be notified to facilitate inspection and collection of confirmation samples. Confirmation sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b).

Details regarding action levels and clearance criteria are found in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. Action levels and clearance criteria are subject to revision by EPA.

4.9.2. Design and Removal Process

Finished secondary buildings with solid-constmction floors (e.g., concrete, wood, etc.) will undergo remediation similar to a primary building, as outlined in Section 4.

Secondary buildings often include unfinished, soil floors. Contaminated soil within a building presents unique remediation challenges. In general, remediation will be completed with a combination of interior and exterior techniques. The following steps will be followed for addressing the soil floor of a secondary building in which detectable levels of Libby amphibole asbestos (LA) or visible vermiculite have been observed;

1. Complete vermiculite insulation removal (attic) in accordance with Section 4
2. Remove and clean or dispose of all items within the building
3. Complete a bulk/gross cleaning of the interior
4. Excavate soil floor to a depth of 6-inches below ground surface
5. Collect soil clearance samples
6. Backfill the excavated area (area will still be considered within the exclusion zone)

7. Contain interior of building (negative pressure enclosure/containment). This may include covering the soil floor.
8. Detail clean interior of building
9. Returu all items back into the stmcture
10. Collect air clearance samples
11. Remove NPE after clearance has been achieved

Areas within or under secondary structures are treated as exterior areas. If detectable levels of LA or visible vermiculite are observed within the soil below a mobile secondary structure, the structure will be moved and the area will be excavated to a depth of 12-inches below ground surface. If detectable levels of LA or visible vermiculite are observed within the soil floor of a fixed secondary structure, the area will be excavated with the structure in-place. Negative pressure enclosure and final air clearance will not be required. Due to potential for undermining the foundation, excavation within secondary structures will typically be limited to a minimum of 6-inches below ground surface. All excavation and restoration will be conducted in accordance with Section 5 and Section 6.

4.10 Personal Breathing Zone Air Sampling

TQA will coordinate the collection and analysis of task-based personal Breathing Zone (BZ) air samples on RC personnel conducting vermiculite removal to document that the level of respiratory protection is adequate for the task being conducted. All personal BZ sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b). Sampling frequencies for personal BZ air monitoring were established using task-based personal BZ sampling data collected during the 2002 - 2006 Libby Project field seasons. Personal BZ air sampling will consist of collecting one Time Weighted Average (TWA) sample and one Short-term Exposure Limit (STEL) (i.e., one 30-minute excursion) sample per task a minimum of every 6 months.

If personal BZ samples are reported above the respective permissible exposure limit for the appropriate sample, then the Construction Management Team ruay request to have the sample confirmed by Transruission Electron Microscopy (TEM), as specified in the *Response Action Sampling and Analysis Plan* (CDM 2011b). USACE and the RC will assess work practices, evaluate contributing factors, and modify engineering controls as necessary.

TQA will report BZ sample results to the RC. The RC is responsible for posting these results in a location readily available to its employees.

4.11 Final Removal Inspection and Clearance Air Samples

Upon completion of the removal, the QC will ensure that the removal has been performed according the plans and specifications. TQA is then notified and a final inspection is scheduled. TQA and QC will come to agreement that the removal appears to be complete. The final inspection will be documented on the QAR and QC documentation.

Final air clearance sampling will be coordinated by TQA personnel in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b). Once the clearance criteria have been met, the RC may remove the containment, and restoration of the removal area can begin.

Details regarding action levels and clearance criteria are found in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. Action levels and clearance criteria are subject to revision by EPA.

During clearance sampling activities, TQA personnel will identify, document, and note the locations of clearance samples, blocking, encapsulation, and removal areas on interior remediation drawings that may be provided by the Design Team. This Draft Interior Red-Line Sketch will be submitted with clearance sample results to the Design Team for incorporation into the property design files and submitted as part of the property completion packets to the record center manager.

4.12 Interior Restoration Preparatory Inspection

No inspections or work activities will be performed without a finalized work plan on-site.

Prior to the start of any work activities at the site, TQA, QC and the RC interior foreman will hold a preparatory phase inspection to review site remediation activities and to ensure that RC interior restoration personnel and TQA personnel have consistent finalized work plans. Additionally, imminent hazards identified will be evaluated to determine if corrective actions are necessary, and will be noted on the AHA.

The RC will begin interior restoration upon the verification that all clearance samples collected meet the project-specific clearance criteria for vermiculite removal, interior cleaning, and/or interior demolition activities performed at a property

4.12.1. Property Owner Repair of Pre-existing Conditions

If a pre-existing condition is discovered during the course of the removal action, the property owner may request that restoration wait until the condition can be repaired. The property owner may perform repairs and required upgrades in a timely manner (typically 2 weeks) prior to restoration being completed by the RC. If the repair takes longer than the agreed to time, USACE will be notified and will determine the course of action. Direction from USACE will be documented in the DQCR and the property folder.

If the property owner is unwilling or unable to repair existing damage in a timely manner, a voucher for the replacement of insulation materials will be provided to the property owner, pending approval from USACE and verification of damages by the USACE representative. The property owner may then repair the damage and complete restoration at their convenience. Properties closed out utilizing a voucher will also include a document outlining the pre-existing condition and the impact of the condition on the project, possible impacts from the condition if left unmitigated. The document will include a statement absolving the govemment of any future liability to restore or provide additional compensation for the property and of any liability attached to, or resulting from, the existing condition. That document will be signed by the property owner and USEPA and kept in the property file.

4.12.2. Attic Accesses

Modifications performed by the RC as part of interior abatement activities to interior or exterior attic accesses (e.g. vents, hatches, puppet holes, etc.) will be restored to a condition equal to the original state, or a modified state approved by the property owner.

4.12.3. Insulation

Insulation removed will be replaced with either blown-in or batt insulation to meet the thermal resistance value (R-value) requirements established by the 2006 International Energy Conservation Code (IECC), or its future revised requirements, adopted by the State of Montana. If the home had insulation in excess of this standard, then the insulation will be replaced to the R value equivalent to that present prior to removal activities. Insulation types and R-values will be specified in the Interior PRE. Installed insulation will not touch the rafters and will allow proper ventilation throughout the attic. Baffles and other accessories will be installed to allow continuous ventilation from the soffit to the roof ridge, even if soffit vents do not exist.

The RC will install rigid foam baffles between all floor joists and rafters at all eave bays. The rigid foam baffles will be placed according to the manufacturer's specifications. Also, prior to installing insulation in removal areas, the RC will cover the top plate of the exterior walls with insulation batting in a manner so as to prevent the escaping of blown-in insulation beneath rigid foam baffles.

Upon completion of rigid baffle installation and/or applicable insulation batting installation, the RC will contact TQA. TQA personnel will perform an insulation inspection to ensure all baffles and insulation batting are installed in accordance to manufacturer's specifications and/or constmction standards. Inspection results will be provided to the USACE on-site representative and noted in the QAR. Inspection deficiencies will be brought to performance standards.

If the property owner is in the process of remodeling portions of an attic impacted by the removal action, a credit for replacement insulation materials only may be provided to the property owner. The site-specific work plan or Other Compensated Materials Claim Form will detail the applicable insulation credit type.

4.12.4. Interior Furnishing or Miscellaneous Items

All household items removed or staged from the residence will be retumed to their original place (unless otherwise specified by the property owner). Any holes or access points in the walls and/or ceilings created as part of insulation removal or accidentally made during cleanup operations will be repaired and retumed to their original condition. The RC will utilize tarps, drop clothes, etc. to prevent or minimize potential damage to carpet and floorings in the residence. If a flooring component is damaged by the RC, it will be professionally cleaned or disposed of and replaced as directed by USACE. If tne carpeting is grossly contaminated by vermiculite prior to removal activities, or pre-existing conditions are noted prior to the removal activity, and cannot be cleaned, it will be documented in the site-specific work plan or the QAR and the contractor will remove and dispose of the carpet as ACM without. Compensation will be determined by USACE. Following removal of a contaminated carpet, the flooring will be appropriately cleaned and a clearance sample will be collected.

4.12.5. Electrical Repairs and Pre-existing Conditions

The RC will test all electrical cfrcuits for continuity and operation to confirm that no damage was caused to electrical wiring and system components during removal work

prior to the completion of interior restoration activities. All electrical repair work exceeding continuity verification and lockout procedures must be perfonned by a licensed electrician.

4.13 Government Inspection

Throughout the restoration effort, the USACE on-site representative or designee will provide restoration oversight to ensure restoration efforts are being performed in accordance with this document and the site-specific work plan.

Once the RC and TQA personnel have agreed that all restoration activities are complete in accordance with the site-specific work plan, the following inspections will be performed:

4.13.1. Final Inspection

The final inspection walkthrough will be performed by the RC interior foreman and TQA personnel.

During the final inspection, inspectors will review the site-specific work plan to ensure all removal and restoration items noted in the site-specific work plan are completed to performance standards. The walkthrough inspection will include a thorough documentation of the property's existing conditions so that, if necessary, final conditions can be compared to pre-removal conditions.

Damages or deficiencies observed during the final inspection will be included on the punch-list of items to be completed by the RC prior to the removal final inspection. Documentation such as photographs, field notes, and pre-cleanup checklists will be referenced to determine if damages are pre-existing or a result of the removal activities.

4.13.2. Post-restoration Documentation

The post-restoration inspection will be conducted by the PCT. The USACE on-sight government representative or EPA representative may also attend this inspection. The purpose of this inspection is to review post-cleanup site conditions, photo-document the interior of the structure, and ensure that the property is presentable for the resident.

Property Coordination personnel will coordinate with the resident to schedule a move-in time (if applicable). In addition, the PCT will commence property close-out procedures as described in Section 2.8.

4.14 Changes to the Site-specific Work Plan

For changes that may result in significant cost (total cost of $100 or more) to the govemment, USACE approval to the change will be required prior to implementation. Approval will be noted on the QC site-specific work plan and in the QAR. Lower value changes or no-cost changes required to complete the project may be implemented at the RC's discretion and documented on the site-specific work plan, punch-list tracking sheet and the QAR.

4.14.1. Interior Work Plan Changes during Removal

Documentation of changes to the work plan is required during an interior removal if any visible or intmsive demolition work will be performed if that work was not documented in the site-specific work plan. The change will be initialed by the property ovmer on the QC site-specific work plan or documented on a ROC. The initialed change is submitted with the QC site-specific work plan to the PCT after completion of removal activities and documented on the QAR.

4.14.2. Interior Changes to Work Plans during Restoration

Interior restoration will performed as specified in the site-specific work plan. All changes to the specifications will be documented in on the QC site-specific work plan. The change is documented on the QAR.

4.15 Property Security

For removal actions that require the relocation of the residents, the RC will supply persomel to provide security whenever the RC is not on-site and the property cannot be locked. The PCT will ensure that proper security is being provided during the time the resident is relocated from their property. The level of security may vary from periodic patrols to on-site fiill-time based on the location of the property and whether it is adjacent or close to other properties under security. This will be evaluated and determined by the RC.

The RC is responsible for site security during regular working hours.

4.16 Callbacks

Interior callbacks will be addressed by the RC. Callbacks will be coordinated and documented by the PCT. Disputed damage claims will be addressed by referral to pre-existing condition photos. If the dispute cannot be reconciled between the property owner and the RC, the issue will be immediately elevated to USACE for final direction on the issue.

5.0 Contaminated Soil Removal

5.1 Purpose and Roles

The RC will remove ACS from residential, commercial, and industrial properties in accordance with the removal and clearance criteria established by EPA. Additionally, visual venniculite inspections during the removal stage may be used to expand areas requiring removal. Details regarding action levels and clearance criteria for soil are found in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. Action levels and clearance criteria are subject to revision by EPA.

The RC will furnish all labor, supervision, materials, equipment, tools, permits, and incidentals necessary to perform all ACS removal activities. Removal crews and equipment will be coordinated around appropriate equipment allocations to address very small, tight quartered properties, average properties and very large properties which require larger excavators. Properties will be scheduled within a GRZ so as to optimize both the use of the different size crews as well as optimizing the use of haul trucks among the crews working in a given area.

5.2 Removal Activity Quality Control Documentation

The RC is responsible for having a Designation of Competent Person Form that designates a competent person for each work safety category listed (at a minimum: asbestos critical barriers, excavation safety, scaffolding, and fall protection). The Competent Person Form is to be on-site in the RC's office at all times of removal and restoration activities. A copy of the form will be available to USACE upon request.

5.2.1. Health and Safety Requirements

The RC's SHSO and QC personnel are each responsible for providing regular and frequent inspections of removal property activities, including preparation, removal, and restoration activities of exteriors, to ensure that appropriate precautions are implemented to protect public and worker safety. These inspections are to be documented by TQA, the RC's SHSO and QC, and included in the DQCR. Any and all safety issues and other construction issues will be discussed during the Daily Close-out Meeting at the end of each day. In addition, the RC is responsible for completing an AHA form for each phase of removal or restoration when the removal requirements of that property fall outside

activities addressed in the base exterior removal AHAs. Site activities requiring competent person approval will have specific AHAs developed for that activity at that site which will be signed by the competent person.

5.3 Subcontractor Activities

The RC is responsible for any project work performed by its subcontractors, including pre-work activities, site preparation, site removal, and site restoration activities. The RC is responsible for ensuring that its subcontractors adhere to all applicable federal, state, and project requirements and guidance documents, including the APP, site-specific work plans, and this plan.

5.4 Pre-Worksite Activities

Upon completion of an initial property removal design and prior to the meeting with the property owner about the RRA, the CMT will visit the property and complete the Exterior PRE. They will estimate the necessary crew, the equipment load and timetable for completion. Any hazards or access issues will be noted on the Exterior PRE. A mechanism for addressing propane tanks and systems within the removal zone will be determined and documented on the form. If possible, septic systems and drain field locations and/or similar structures will be identified. All trees that are susceptible to the bark beetle epidemic and are in or near a planned removal area will be noted on the form, and their location will be marked on the design. Any signs of beetle blight in the area will be noted on the form. The PRE will be submitted to the Design Team no later than one business day after the visit.

The Design Team will integrate the notes from the evaluation form into the Removal and Restoration Designs, and then deliver the form to the PCT. The PCT will file the Exterior PRE in the applicable property file. The revised design and any applicable issues from the PRE will be presented to the property owner by the PCT during the RRA Meeting. The PCT is responsible for providing a copy of the form to the Design Team and informing the Design Team of any changes in the preliminary removal design that are documented during the RRA. The Design Team will integrate those changes into the final removal and restoration designs.

After the PCT conducts the RRA meeting with the property owner and a RRA has been signed by the property owner, the PCT will provide copies of the signed documents to the RC foremen, QC and superintendent and to the TQA.

Before beginning any site preparation or excavation, the RC will perform due diligence to verify the location of underground utilities or installations, in accordance with OSHA Standard 29 CFR 1926.651(b)(2). These will include, but are not limited to, sewer/septic lines, drain fields, telephone/cable lines, gas and water lines, electrical connections, and irrigation systems.

5.5 Site Preparation

5.5.1. Preparatory Inspection

No inspections or work activities will be performed without a finalized work plan on-site.

Prior to the start of any excavation activities at the site, QA and QC will hold a preparatory phase inspection to review site remediation activities and to ensure that RC removal personnel and TQA personnel have consistent finalized work plans. Additionally, imminent hazards identified will be evaluated to determine if corrective actions are necessary, and will be noted on the AHA. QA and QC personnel will discuss the continued need for the decontamination facility for sampling personnel after the excavation crews have already left the site, and will plan the use and demobilization of the facility accordingly.

5.5.2. Site Set-up

The RC is responsible for the following during site set-up:

- Implementing safety precautions, including use of appropriate PPE, if contaminated materials are expected to be disturbed.
- Using appropriate engineering controls to prevent contaminant migration as a resuh of remediation activities.
- Implementing and maintaining dust control throughout the duration of site activities, from site preparation through restoration, in accordance with MCA Title 75 (Environmental Protection), ARM Title 17, and NESHAP asbestos regulations (40 CFR Part 61).
- Ensuring that all vacuums used by project personnel on the project have HEPA filters that meet the defmition as stated in OSHA Standards 29 CFR 1926.1101(b). The RC will maintain HEPA filter documentation for each manufacturer's model of vacuum as well as filter change-out records for each piece of equipment.
- Maintaining a copy of the site-specific work plan at each work site throughout setup, removal, and restoration activities.
- Providing temporary electric power and potable water for the duration of site activities.
- Ensuring electrical safety throughout the duration of site activities as by all apphcable OSHA Standards, including 29 CFR 1926.400 Subpart K and USACE EM 385-1-1, Section 11, Subpart E. All activities with the potential to be performed within 10 feet of energized overhead electrical lines must be evaluated as part Exterior Preparatory Removal

Evaluation, and appropriate precautions must be implemented before remediation work may begin.

- Ensuring that all appropriate LO/TO procedures are performed in accordance with project and OSHA requirements, including OSHA Standards 29 CFR 1926.416 and 29 CFR 1926.417 and USACE EM 385-1-1 Section 12 Control of Hazardous Energy, are implemented for a structure's electrical sources throughout the duration of site activities.
- Ensuring that only licensed electricians perform physical disconnections and reconnections of all electrical circuits. Breaker management and LO/TO procedures not requiring circuit alteration and continuity checks may be done by competent field personnel. Electrical repair safety requirements are to be performed in accordance with USACE EM 385-1-1 Section 11 Electrical (USACE, 2008).
- No upgrading of pre-existing substandard wiring will be performed. If substandard conditions exist the property owner will be notified of the need to make the required improvements. If substandard conditions exist that pose a risk to the contractor or potentially to the structure and the property owner, the contractor will terminate work prior to disturbing the wiring and will notify the USACE on-site representative.
- Ensuring that only licensed plumbers or qualified persons perform plumbing repair work at a site. Plumbing repair that would normally be performed by an average property owner may be performed by a qualified RC competent person (e.g., fixture removal and replacement, plumbing of threaded pipe, sprinkler system repair, etc.). The qualifications of the proposed person must be approved by the CMT prior to each repair.
- Ensuring that only licensed personnel perform repair work on gas, propane, or oil lines at a site.
- Identifying and posting residential traffic and pedestrian points of hazard with legible traffic signs, in accordance with OSHA Standard 29 CFR 1926.200(g)(1), throughout the duration of removal and restoration activities.
- Providing site traffic signage in compliance with DOT regulations, including, but not limited to, temporary stop signs when necessary.
- Identifying and evaluating any existing residential mechanical equipment within the work zones, isolating or removing any potential hazards.
- Placing/Staging removal equipment such as, but not limited to, loaders, excavators, decontamination trailers, and water storage tanks in a manner that minimizes inconvenience and risk to the public.
- Removing all non-permanent matting or flooring from heavy equipment before its use in exclusion zones. This will assist with proper decontamination procedures.
- Keeping all sidewalks and other public access pathways free of equipment during non-work hours, or providing a sufficiently permanent barrier to prevent pedestrian or vehicle access. Blocked pedestrian or vehicle access pathways will require traffic flow rerouting by the RC, in accordance with OSHA Standard 29 CFR 1926.200(g)(2).
- Securing sites to prevent children and pets from accessing work areas during work and non-work hours.
- Demarcating exclusion zone boundaries with orange fencing and/or asbestos tape, based on the size and type of removal activities to be performed, and posting ingress/egress points with appropriate asbestos and PPE signage, in accordance with OSHA Standard 29 CFR 1926.1101(k)(7)(i). All removal activities will be conducted within an appropriately designed exclusion zone. The exclusion zone boundaries may only be removed after clearance samples have been collected.
- Demarcating smoking and specific non-smoking areas, flammable storage areas, asbestos hazard areas, hardhat areas etc. with proper signs.
- Demarcating support zone boundaries with orange fencing and yellow caution tape.

- Demarcating waste load out, personnel, and equipment pathways as part of the exclusion zone.
- Protecting all areas of the property where work activities are performed from inclement weather by implementing any reasonable safeguards necessary during removal and restoration activities.
- Ensuring that power is supplied to any refrigerators, freezers, or other items identified in the site-specific work plan.
- Providing fire extinguishers, in accordance with OSHA Standard 29 CFR 1926.150(c)(1)(VI), and the requirements of USACE EM 385-1-1 throughout the site's work areas including, but not limited to, the exclusion zone and decontamination facility, adjacent to all gasohne powered equipment (pumps or generators) and gasoline storage cans, and within each piece of equipment.
- Repairing or replacing in kind all items damaged during remediation activities.
- Ensuring that skid-mounted sheds and other movable support stmctures located in areas identified for excavation are decontaminated where in contact with ACS, relocated to a non-contaminated area, and retumed to their former location after restoration is complete.
- Moving automobiles, trailers, campers, or other similar items, if necessary, before cleanup activities, but only after the appropriate owner's permission is granted and a Hold Harmless Agreement is signed. These items will be retumed to their original location by the RC after restoration activities are complete. If fragile or items in questionable condition need to be moved the contractor will obtain a signed Hold Harmless letter from the owner prior to moving the item. The existing condition of the item will be fully photo-documented prior to moving it.
- Adhering to all transportation and disposal requirements. All ACM generated during removal activities, with the exception of soil, will be disposed of at the Landfill. No polyethylene sheeting or PPE of any kind is to be disposed of at the mine site repository.
- Implementing pollution control measures throughout all site activities.

The RC will be responsible for maintaining these aspects of site preparation, and all appropriate safety precautions, throughout the duration of removal and restoration activities.

5.5.3. Containment Setup

The RC will arrive on site prior to commencement of removal activities to construct an exclusion zone inside the designated work area to ensure the health and safety of the workers and the public. QA and QC/competent person will evaluate the exclusion zone construction during the preparatory inspection and must approve of it prior to the commencement of excavation activities. The exclusion zone is also subject to inspection and approval by the USACE on-site representative. Exclusion zone boundaries will be demarcated with orange fencing and/or asbestos tape and proper warning signs, based on the size and type of removal activities to be performed, and RC needs. The exclusion zone will encompass the entire contaminated area, including selected non-contaminated areas adjacent to the excavation area. These non-contaminated areas will be used as a Contamination Reduction Zone (CRZ) for personnel and heavy equipment ingress/egress,

and for staging of waste bags and other necessary equipment. In some circumstances, the exclusion zone may be moved (i.e., sliding exclusion zone) during a removal activity to facilitate the cleanup. No adjustment to the exclusion zone will occur without the prior approval of TQA. Adjustments will be documented by TQA in the QAR and by QC personnel.

The RC Quality Control and the TQA are responsible for inspecting and maintaining the designated containment areas to ensure they are of sound construction and functioning as designed until after clearance samples have been collected. Both parties are also responsible for ensuring that temporary access roads are built from clean areas into contaminated areas, so that trucks dumping material for access roads do not drive on contaminated areas.

Asbestos warning and PPE requirement signs, in accordance with OSHA Standard 29 CFR 1926.1101(k)(7)(ii)(b), will be posted by the RC at all ingress and egress points of the exclusion zone so that Site personnel may read the signs and be aware of necessary protective steps before entering the exclusion zone. The signs will also serve to warn the public of the exclusion zone's dangers.

All contaminated material load out and storage areas are considered extensions of the exclusion zone. They must be fully demarcated and lined with polyethylene sheeting to ensure that clean areas adjacent to the exclusion zone are not cross-contaminated. The RC will ensure that each haul truck's windows are up, drivers remain in the cab, positive-pressure units are on, and air conditioning units are off or set to recycle when inside the extension of the exclusion zone. If possible, a cordoned-off access to the CRZ will be constructed so that the truck driver may get out of the truck into the CRZ without entering into the exclusion zone. If the zones are constructed in this ruanner, gate management may be the responsibility of the truckers and not a separate person.

In the rare case of night work, the RC will provide adequate lighting within the work areas, in accordance with OSHA Standard 29 CFR 1926.56(b). In most cases soil removals will be limited to the hours between sunrise and sunset or soon enough after sunset that lights are not needed.

The RC will address any potential fall hazards within the work areas, in accordance with OSHA Standard 29 CFR 1926.501 and USACE EM385-1-1 (2008).

The RC will ensure that a property's pre-existing survey markers are maintained. If it is necessary to remove the markers (only to be done with prior approval from USACE) to perform contractual work and the location cannot be reinstalled, the RC will be responsible for ensuring that the markers are reinstalled by triangulation or a professional land surveyor.

The RC is responsible for ensuring that all appropriate ACM handling procedures are implemented and in accordance with OSHA Standard 29 CFR 1926.1101(l)(2) and all transportation on public streets in accordance with all applicable DOT regulations.

Once the exclusion zone has been approved by QA/QC personnel, all personnel entering the exclusion zone must wear the appropriate level of PPE for their assigned task.

5.5.4. Protection of Existing Features

The RC will protect existing utilities, structures, outbuildings, foundations, and improvements (i.e., selected trees, sidewalks, driveways, and other items) during all work phases at the site.

All soil removal work around sidewalks and roads will be performed so that a 1:1 slope away from the base is maintained at all times during excavation. All soil removal around foundations of structures will be performed so that a 1:1 slope is maintained from a point 6" below existing grade. Additional excavation by hand may be required to completely remove ACS, particularly in flowerbeds, play areas, etc. located directly adjacent to residential structures and immobile outbuildings. All foundations with questionable integrity, whether previously identified by the Investigation Team or by the RC at any time during the removal process, will be inspected and documented prior to any further removal activities. In some cases, hand excavation of limited exposure lengths followed by immediate backfill may be sufficient to protect inadequate or deteriorating foundations. In severe cases, no excavation around the house will be permitted by the CMT. Another means of capping or otherwise isolating the ACS will be evaluated by the USACE on-site representative and the RC. If removal is not performed, the location will be documented and noted as an area where contamination was left in place.

Propane systems may be addressed as part of the removal action. The RC may use concrete to cap the area around the base of the propane tank or move the tank based on the recommendation of the PRE and agreement by the property owner. Propane tanks will not be brought up to code as part of the removal action. Reconnection of any

disconnected or out-of-code tanks will be the responsibility of the property owner. No backfilling will be performed around propane infrastmcture until the propane tank is operational if the deficiency is caused by the underground lines. The excavation around propane infrastructure will be sloped and left open. The property owner will be notified.

If public sidewalks in OU4 are damaged and may require repair in the future, the RC will coordinate with the City of Libby, who may request the removal of the damaged parts of the side walk and the removal of impacted soils from beneath it. Removal of such sidewalks will be under the condition that restoration of the sidewalk will be performed by the City of Libby. Damaged private sidewalks where removal and replacement may facilitate more cost effective removal operations will be brought to the attention of USACE for approval.

5.5.5. Personnel Decontamination

The RC will establish a properly demarcated, HEPA-filtered, 3-stage decontamination trailer or equivalent, hereafter referred to as a facility, consisting of an equipment room (dirty room), shower area, and a clean room for personnel decontamination, in accordance with OSHA Standard 29 CFR 1926.1101(g). A designated route from tire exclusion zone to the facility entrance will be maintained. The designated route may include use of the decontamination bus that transports personnel from the removal site to a decontamination trailer. Personnel decontamination procedures must be posted in the clean and dirty rooms so that persomel may read and take necessary steps to ensure their safety. The RC must perform regular housekeeping duties within all decontamination facility rooms to ensure and maintain their cleanliness. Documentation of such housekeeping will be posted in the clean room of the decontamination facility and made available to USACE or EPA upon request.

The RC is responsible for maintaining a 3-stage decontamination facility onsite until after clearance samples have been collected.

The RC will use potable water for all persomel decontamination, in accordance with OSHA Standard 29 CFR 1910.141(b)(1)(i). All potable water delivery systems must be disinfected on a regular schedule, with greater frequency during the summer months. The RC must include disinfection of its potable water systems in thefr weekly schedule. Documentation of potable water equipment inspections and disinfections must be maintained by the RC, made visible to personnel using a particular water source, and provided to USACE and the EPA upon request. Wastewater generated from personnel

decontamination must be disposed of at the Landfill, the mine, the floor of the excavation or passed through a 20- and 5-micron filter and disposed of as sanitary waste. The contractor may also use the wastewater without filtering to pre-wet areas of the property still needing soil removal if that is seen to be cost effective and beneficial. The RC will set up one decontamination facility for each property or group of properties if the properties are in close proximity to one another.

The RC may perform small-scale, short-duration removals in Modified Level C PPE and without a 3-stage decontamination facility at the site upon approval from the USACE on-site representative, SHSO, and TQA. If permission is granted for Modified Level C PPE the RC must maintain a suitable means on-site for PPE, equipment, and personnel decontamination, as approved by USACE and EPA. This means of decontamination will be maintained on-site by the RC until after clearance samples have been collected.

5.5.6. Equipment Decontamination

The RC is responsible for implementing heavy equipment decontamination procedures when transporting equipment from site to site, and when equipment is removed from the project.

Heavy equipment will be rinsed off with water to remove all visible soil before transport. The RC will ensure that all appropriate controls of decontamination water are implemented to prevent releases of material outside of the exclusion zone.

The RC may use the following altemative measure to ensure worker safety and public protection during all contaminated equipment transportation: once gross material has been removed, the RC may wrap contaminated areas of the heavy equipment with polyethylene sheeting and duct tape to prevent material release during transport. Sheeting may not be removed outside of an exclusion zone.

In addition, the RC is responsible for ensuring that all haul tmck and haul vehicle exteriors are protected during loading by draping with polyethylene sheeting and decontaminated, as necessary, before leaving the exclusion zone, including extensions of the exclusion zone.

Before being taken off use from the project or before use in a clean area, all heavy equipment must undergo a full interior and exterior decontamination by the RC.

Use in a clean area does not include use of a ruachine bucket to install topsoil around tree roots. In this case, the bucket will be sufficiently decontaminated prior to installing topsoil. The dump buggy does not constitute heavy equipment. Use of the dump buggy between removal and restoration activities requires removing/washing visible soil from the machine.

Full decontamination includes removing protective plating (skid plates), pressurized washing of all surfaces, cleaning the interior of the engine compartment, cleaning of the undercarriage, cleaning of the track adjusters, removing floor mats, and an extensive cleaning and wipe-down of the cab. The RC will notify TQA for inspection and documentation of the decontamination before moving or using the equipment. The RC will fill out a Decontamination Checklist. TQA will verify the decontamination and note it in their QAR. The RC will retain the original form in thefr files.

At the end of the construction season or before being taken off use from the project, the RC will remove, replace, and dispose of any air filters (air-intake, cab, etc.) from equipment that has been inside an exclusion zone. All filters from equipment that has been in an exclusion zone will be disposed of as ACM. Filter removal and disposal will be documented by the RC on the Decontamination Checklist. USACE will be notified by the RC before any heavy equipment is decontaminated and removed from project service and by TQA when its decontamination is completed.

All subcontracted haul trucks (day use) that enter exclusion zones shall have their cab and intake afr filter changed out by the RC at the time of normal maintenance or end of service with no additional cost to the subcontractor. The RC will document the filter change out on the Decontamination checklist and dispose of the old filter as ACM.

When subcontracted trucks used to haul contaminated soils are temporarily transitioning off of the project, the truck bed will be decontaminated and documented by the RC on the decontamination checklist. Full decontamination inspection and documentation by TQA will not be required.

Portable equipment (pumps, pressure washer, etc.) that enters the exclusion zone will have their air filters replaced at the time of normal maintenance or the end of the construction season. The RC will document the filter removal and replacement and dispose of the old filter as ACM.

USACE reserves the right to verify decontamination activities and standards before moving the equipment between properties or before demobilization of equipment.

5.5.7. Equipment Pathways

Paths the equipment will traverse during the work will be controlled to prevent cross-contamination. These controls are designed to minimize contamination of equipment during soil load-out, to facilitate simultaneous excavation work in more than one area on larger properties, and to facilitate backfill in one part of the property concurrent with the completion of excavations in another part if feasible. These controls will consist of, but are not limited to, covering driving pathways within removal areas with clean fill and covering truck dump boxes with 6-mil thick polyethylene sheeting or a layer of clean fill to prevent cross-contamination during ACS load-out.

The RC will perform a complete decontamination of any such approved haul pathway material, if reusable, before it leaves the exclusion zone and before final clearance sampling. Material observed to be contaminated will be washed off in the site's exclusion zone. Soil used for access roads will be removed along with other contaminated site soil and will be disposed of at the mine site repository. Plastic used for clean haul roads or to otherwise control the spread of contaminated material will be disposed of as ACM.

5.5.8. Equipment Transport

All transport of heavy equipment by the RC will be performed in accordance with all applicable DOT regulations.

5.5.9. Trees, Shrubs, and Other Debris

Any vegetation (e.g., trees, shrubs) to be removed will be identified in the site-specific work plan and will be disposed of at an approved site (e.g., mine site repository or landfill). Tree and shrub removal will be performed as defined in the site-specific work plan. Chainsaw operations are a recognized safety hazard and are to be performed in accordance with OSHA Standard 29 CFR 1910.266(e)(2) and requirements of the USACE EM385-1-1 (2008). The RC will ensure that all personnel performing tree removal or stump grinding activities are adequately trained and equipped to perform the task in a safe manner in accordance with Tree Removal and Maintenance Section 31 of the USACE EM 385-1-1 (USACE, 2008).

5.5.10. Concrete, Decks, and Other Items

Items located in yards such as concrete, decks, fencing, and other site improvements that require demolition to access ACS and the remediation approach will be identified in the RRA. The items to be demolished, disassembled, cut, uprooted, or otherwise removed will be done so with appropriate equipment and procedures.

Upon approval by USACE, non-contaminated building materials comprised of wood, glass, and/or metal removed during the removal activity will be transported for disposal at the Lincoln County Landfill solid waste facility. Loads will be documented for tipping fee reconciliation. Other building materials will require asbestos sampling before disposal at the solid waste facility.

The following items will be removed as indicated, if removal is required:

- **Pavement**: Bituminous pavement, asphalt, and/or concrete to be removed will be demolished using a walk-behind concrete saw, or cutoff saw (as required), with appropriate dust suppression measures taken. Items that are removed will be considered contaminated and will be properly disposed. The RC will perform all cutting activities in accordance with all applicable project APP, and OHSA requirements, including OSHA Standard 29 CFR 1926.702(i)(1)-(2) and USACE EM385-1-1 (2008).
- **Piping**: If necessary, underground piping that interferes with soil removal, such as sprinklers, storm drains, water lines, or sewer/septic hnes will be cut with appropriate tools. Use of such equipment will be in compliance with USACE EM385-1-1 (2008). Any sewer piping or miscellaneous debris to be removed will be excavated using an appropriate sized hydraulic excavator and disposed of as ACM.

The RC will be responsible for ensuring that hazardous and non-hazardous materials are removed from work areas by the property owner prior to setting up the property for removal activities. If for some reason a property owner cannot be contacted and potentially hazardous materials are identified which must be disposed of they will be properly characterized and segregated. These activities will be performed only by qualified personnel under direct supervision of USACE. These materials will be staged and left for the property owner.

All items not scheduled to be demolished will be protected during the removal phase. Safe work practices will be employed by all personnel to prevent damage to remaining structures, other items, or personnel.

5.5.11. Cleaning of Yard Items

The RC will pressure wash and/or wipe clean miscellaneous items, including, but not limited to, yard ornaments, bicycles, and outdoor grills, that are in contact with ACS and are located within the designated removal areas. Decontaminated items will be moved to an uncontaminated part of the property or a designated storage area, stored in a Connex-type temporary storage box, given to the home or business owner for safekeeping, or disposed of by the RC in accordance with the site-specific work plan. For stacked items such as lumber and firewood, the layer in contact with the ACS will be disposed of by the RC in accordance with the site-specific work plan. If sprinkler parts (heads, pipe, valve box, etc.) within the removal zone will be used in restoration, those parts will be thoroughly decontaminated and then staged. Sprinkler heads will be staged in water.

5.5.12. Stumps

Stumps are to be removed as specified in the site-specific work plan or subsequent punch-list. The RC will ensure that all personnel performing tree removal or stump grinding activities are adequately trained and equipped to perform the task in a safe manner in accordance with Tree Removal and Maintenance Section 31 of the USACE EM 385-1-1 (USACE, 2008), and are trained and quahfied for work within an asbestos removal work zone potentially with level C PPE.

5.6 Soil Excavation

5.6.1. Tree Protection Policies

The following policies addresses work within the drip-line of trees and are outlined in the RRA:

- Measurement of the tree will be performed with calipers for diameter at breast height. The industry standard for breast height is 54". The cahpers may be slid in 12" in each direction trom the 54" height. If any portion of the trunk within one foot of the 54" height meets or exceeds the parameters below, then the tree is eligible for retention.
- Non-fruiting trees in the removal zone under 6" diameter at breast height and shmbs will automatically be removed. Fmiting trees under 4" diameter at breast height will automatically be removed.
- Trees larger than 6" diameter at breast height will be left in place and the "Procedure for Soil Removal around Trees" will be followed.
- Replacement of trees will be in nursery stock.
- Dead trees and stumps may be removed at the RC's discretion if they facilitate the removal action.
- If trees need to be removed and are located near stmctures, a bonded tree cutter will be contracted to remove the tree.
- Excavations around the trees will remove as much soil as possible trom around the roots without severely damaging the root system or the stmctural integrity of the tree.

- Intmsive digging into the root system will not be performed. Visible Vermiculite (VV) in the root mat may be noted and left in place if it is sampled and results do not indicate the presence of LA greater than or equal to 1%. A physical barrier may be placed above the roots prior to completion of the backfill if significant vermiculite is left in the root zone. If LA greater than 1% is detected within close proximity to the root mat the tree will be re-excavated or removed and compensation will be in the form of nursery stock.

5.6.2. Procedure for Soil Removal around Trees

The following procedure will be followed by removal crews excavating soil from around trees to minimize the stress put on the tree:

- Trees to remain that are close to the 4" or 6" size limit will be marked with ribbon.
- Trees to be removed will be marked with bright paint by the property owner at the RRA meeting. Those trees will be removed during the site set-up. No remaining tree will be removed without a property owner's specific approval.
- Excavation in root zones will begin at the base of the tree with hand tools and move outward to locate the major roots. Major roots will be carefully exposed, taking precautions to avoid damaging the root.
- An excavator may be gently used for excavating soils two feet away from the radius of the trunk once the major roots have been located and can be avoided taking precautions to avoid damaging the root. Operators must demonstrate an ability to dig surgically around the tree or they will be removed from the task. When using an excavator, precautions will be taken to protect the tree trunk and branches from scrapes from the excavator and/or hand tools. This may include tying the trees back with straps to create access.
- Exposed roots will be kept wet once they are exposed until after backfilllng is complete. Water will simultaneously be used for wetting the roots and as an engineering control to prevent dust.
- Any scrapes to the tree trunks or major roots will be cut cleanly with a utihty knife to minimize the amount of damaged surface area. Roots that are severely damaged will be cut-oIf cleanly above the damaged area. Note: the tree will likely die if the bark is removed most of the way around the trunk.
- QA/QC will ensure that unnecessary digging is not performed. In areas where observed venniculite was the removal trigger, excavation will stop once vermicuhte is no longer observed by TQA. TQA will coordinate rapid confirmation sampling after the completion of excavation.
- Directly after confirmation has been performed by TQA, all roots will be backfilled as soon as possible using topsoil material. Backfillling will be up to the root collar, or where the soil line appears near the root collar. The RC wlll keep topsoil on-site for this purpose when anticipating digging around trees.
- If an area cannot be backfilled and the roots wlll remain open overnight, the roots will be covered in soaked burlap untll backfilling can occur.
- Backfilled areas around trees will be soaked multiple times a day (more frequently in hot, summer months) in the first days after excavation. Any settling of the topsoil around the roots will be corrected by adding more soil.
- If analytical results are greater than 1% LA, the EPA and the homeowner will be notified to determine if the homeowner wants the tree removed. With the homeowners approval excavation crews will retum and the tree wlll be removed.

- If the homeowner does not wish to lose the tree the presence of contamination left behind will be documented in the property file.
- Replacement of trees will be with nursery stock.

5.6.3. Vermiculite Quality Control Inspections

Removal crews will inspect areas near excavation zones for vermiculite. Any vermiculite discovered outside the excavation zone will be brought to the TQA's attention and addressed in the field. Once the additional area of contamination is delineated, the area may be included in the exclusion zone as determined by use area and removal criteria. Additional removal will adhere to use area designations determined by the Investigation Team or directed by USACE. Extensive expansion of the removal zone will require consent from USACE as indicated by a signature on the QC's site-specific work plan and notification of the property owner. Extensive expansion is defined by chasing contamination into a separate use area, chasing contamination into an area with intricate landscaping or vegetation, or an increase in the size of the removal zone greater than 300 square feet. All removal zone expansions will be documented by TQA in the QAR.

5.6.4. Contaminated Soil Removal

The RC will be responsible for selecting the appropriate equipment for conducting the excavation based on the Exterior Removal PRE. The equipment may include an appropriate sized hydraulic excavator, a vacuum truck, hand tools, and dust control equipment, depending on the size and complexity of the removal. Soil within the exclusion zone will be excavated according to the site-specific work plan requirements and clearance criteria.

All excavations, embankments, stockpiles, haul roads, permanent and temporary access roads, waste staging and storage areas, stabilization materials handling areas, and other work areas may cause a dust hazard. Dust suppression will be maintained throughout the duration of all removal activities, including restoration, in a manner to prevent visible dust emissions on-site in addition to preventing dust emissions from migrating off-site.

The use of water, generally via water hoses and water tmcks, will be the primary method of dust suppression. Pre-wetting properties during dry periods of the year will also be performed to aid in dust suppression and contribute to the excavation efficiency. Additional dust suppression methods include, but are not limited to, covering haul pathways with gravel, and working methodically and with care when handling soil.

If there is no water source available, adequate, and/or ready at the site for dust suppression, the RC is not permitted to perform excavation or soil handling of any kind.

After the excavation of ACS within designated removal areas to design depths, TQA will inspect the excavation for the presence of vermiculite. If there is vermiculite in sufficient quantities still visible in the excavation floor or sidewalls, as determined by the TQA, the RC will be directed to remove additional quantities of ACS until, in the judgment of the TQA, the remaining soils are expected to meet soil clearance criteria or the excavation extends to 3 feet below ground surface (bgs), the maximum project excavation depth as detailed in the *Response Action Sampling and Analysis Plan* (CDM 2011b).

When the soil remaining in the excavation area has passed the visual inspection, the TQA personnel will collect confirmation soil samples in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b). Following collection of the confirmation samples, the excavation may be backfilled. If the sample results indicate that the remaining soils comply with the clearance criteria, the excavation will be considered complete. If the sample results indicate that soils on the floor of the excavation are found to contain LA in quantities greater than 1%, the RC will remove the clean material to the extent practicable for re-use without removing non-backfill material. The RC will excavate an additional **6** inches below ground surface (bgs) until soil clearance criteria are expected to be met or the maximum excavation depth of 3 feet bgs is reached. Removal actions will not be considered complete until all the confirmation soil sampling results have been received

If contamination is still visible at 3 feet bgs, the RC will stop excavating and place a physical marker on the bottom of the excavation. Contamination deeper than 3 feet bgs will only be excavated under special circumstances and only with approval of USACE.

Final excavation depths, boundaries and sample locations will be documented by the TQA for inclusion on the Final Removal Area Drawing.

If visible venniculite is apparent in the sidewalls along the boundary of the property, a physical barrier will be secured along the sidewall. At the direction of USACE, the RC may attempt to pursue removal of contamination on the adjacent property once proper access has been granted.

5.6.5. Excavation Floors Greater than One Percent LA

The RC will excavate beyond 12" and 18" if the analytical result of the confirmation sample is greater than 1%. If backfill material has already been placed over the excavation, all the material except the bottom four inches may be re-used. The remainder will be disposed of as ACS.

5.6.6. Stockpiling Contaminated Soils

Stockpiling of wetted soil may be utilized to optimize the use of haul tmcks and reduce the time a truck waits to be loaded. Stockpiles will be prevented from drying out prior to being loaded. To the extent possible, all stockpiles will be loaded out by the end of the work day. Any remaining soil stockpiles at the end of the work day will be limited to less than a few cubic yards of total material and will be covered to prevent dust and contamination migration out of the site's exclusion zone.

5.6.7. Confirmation Soil Sampling

Once the contractor has completed removal of all gross visible vermiculite, all soil contaminated with visible vermiculite, and all LACS per the removal design, TQA personnel will be notified to initiate inspection and collection of confirmation samples. Confirmation soil sampling may be performed simultaneously with the excavation of ACS at the same property. That is, if the excavation is large enough, confirmation samples may be collected in areas of the excavation that are completed, while the RC completes excavation in other areas. If confirmation sampling is performed simultaneously with the excavating activity and areas of the excavation are deemed complete, the RC will ensure that that there is no significant cross-contamination between the excavation and sampled areas. Sampled areas will be demarcated from non sampled zones. Confirmation sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b).

The TQA personnel are responsible for collection and submittal for analysis of confirmation soil samples.

Details regarding action levels and clearance criteria are found in the *Libby Asbestos Site Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum* (EPA 2003) and its revisions. Action levels and clearance criteria are subject to revision by EPA.

5.6.8. Changes to the Site-specific Work Plan

Extensive expansion of the removal zone will require a signature froru USACE and notification to the property owner. Extensive expansion is defined by chasing contamination into a separate use area, chasing contamination into an area with intricate landscaping or vegetation not included in the site-specific work plan, or an increase in the size of the removal zone greater than 300 square feet.

Punch-list tracking and mark-ups on the QC's site-specific work plan will be required for documentation of any changes ruade to the site-specific work plan whether originating from QC, TQA, the property ovmer, USACE or EPA.

The punch-list and/or QC site-specific work plan will be initialed by the USACE, the property owner and/or a contractor designee, as appropriate. Punch-list tracking will be maintained by QC personnel and will remain on-site during the removal and be available for review during the course of the excavation. Following the completion of the excavation the signed punch-list and QC site-specific work plan are submitted to the PCT and documented on the QAR.

5.6.9. Transportation and **Di**sposal

Contaminated material will be excavated and loaded into trucks or trailers. Polyethylene sheeting will be placed over the side of the truck or trailer bed to prevent any contaminated ruaterial from spilling on the truck. The utmost care will be given during loading to ensure that the truck or trailer exterior remains clean. However, trucks or trailers will be cleaned with water should the decontaruination be warranted. No visible dust will be perruitted during loading operations. Each load will be wetted prior to tarping and transport. USACE, EPA, QC or TQA will ensure that the proper procedures are being followed. TQA will document at least once a day per exterior removal property that the RC personnel are following proper wetting and tarping requirements. Observations will be noted in the QAR.

There will be zero tolerance of soil ruigration from trucks during transportation from the removal site to the Mine.

Truck and trailer beds should be sealed watertight and "dust-tight." Any trucks and/or trailers with damaged or inadequately sealed beds observed by USACE, EPA, the CMT, QC, or TQA, will be irumediately removed from service until the necessary repairs or corrections are made. **D**amaged tarps or seals on trucks that are loaded with ACM or ACS and are in transit will be required to stop until direction from USACE is received.

Soils will be sufficiently wetted after tiey are loaded into tmcks to ensure that dust will not be created during transport. Tmcks and trailers will have tarps secured over the beds to ensure "dust-tight" enclosure of the load before departing the property. The tarp must be pulled down over the bed in the exclusion zone. The act of tying down the tarp to the bed of the tmck may be performed directiy outside of the exclusion zone if it facilitates the removal process. Any trucks and/or trailers with damaged or inadequate tarps observed will be immediately removed from service until the necessary repairs or corrections are made.

Controlled pathways will be constmcted over non-contaminated property areas so trucks or trailers can be driven to the area(s) requiring excavation with minimal dismption to the existing vegetation.

Tmcks transporting ACS will be equipped with positive afr pressure HEPA filter systems. The RC will ensure that all operators are fully trained in usage of the air filtration systems. All positive pressure units used by the RC must have an identification number. The RC will supply this identification number to USACE upon request.

Materials arriving at the amphitheater area of the former W.R. Grace Rainy Creek Mine (Mine) will be sufficiently wetted during off-loading activities to ensure that no visible dust is generated. If soils arriving at the amphitheater are dry or dusty, the competent person at the mine will relay that information to the associated removal area and the process will be corrected. TQA will periodically observe off-loading activities, the condition of tmck tarping and tailgate seals and document these observations on the daily QAR.

The RC will regularly perform maintenance and safety inspections for all tmcks and will ensure that all haul tmcks used to transport contaminated material undergo annual DOT certification inspections. Copies of the inspection reports will be made available to USACE upon request. All trucks having safety or maintenance deficiencies will be immediately pulled from service until repaired.

5.6.10. Control of Surface Water

Responsibility for the care of surface water will be borne by the RC until completion of restoration work. The RC will provide the materials, equipment, and personnel needed to control surface water and to protect the removal work from damage by water. Using

temporary control measures, the RC will be responsible for preventing surface water from running into and out of the exclusion zones.

If necessary, portable pumps will be used to remove any ponded water. Any water removed from an excavation will be treated as contaminated fluids and used to moisture-condition ACS still to be excavated or be disposed of at the Mine or Landfill.

5.6.11. Pollution Prevention

Material will not be allowed to enter and pollute any surface water or groundwater in the Site. Vehicles and equipment will be lubricated or fueled in a controlled manner. All RC personnel and subcontractors will comply with applicable federal, state, and local laws conceming pollution of surface and groundwater. Special measures, with approval from EPA, may be implemented to prevent chemicals, fuels, oils, greases, and other materials from entering public waters.

5.7 Structure Demolition

All stmcture demolitions will be evaluated separately, done in accordance with the site-specific work plan, and will require approval of USACE. There will be no compensation to property owners for demolitions. The EPA on-site representative and the property owner will sign "No Compensation" letters prior to any stmcture demolition.

5.7.1. Documentation

In addition to the QAR, TQA will be responsible for the video-documentation of the demolition and the load-out of the demolition debris. The video file will be submitted to the PCT after the demolition is complete.

5.7.2. Disposal of Demolition Debris

Stmcture demolition materials will be disposed of as ACM. Before transporting this ACM for disposal, the RC will prescreen the waste for acceptability at the facility. Prescreening will involve visual inspection of residential, commercial, industrial, and public buildings to be demolished. Any liquid materials such as paint cans, cleaners, solvents, petroleum products, and pesticides will be removed from the building by the property ovmer before the venniculite removal action, ACM removal or demolition. In addition, the property owner will remove glues, resins, dyes, oils, pesticides, and any

other household hazardous wastes from the building and inspect the building for polychlorinated biphenyl-containing light fixtures.

The RC will process demolition debris for disposal into relatively small pieces, such that the debris passes through the tailgate of a dump truck, can be covered with 6 inches of daily cover soil, and can be compacted in place by the Landfill operator.

5.8 Final Inspection

Upon completion of the removal, the QC will ensure that the removal has been performed according the plans and specifications. TQA is then notified and a final inspection is scheduled. TQA and QC will come to agreement that the removal is complete. The final inspection will be documented on the QAR.

5.9 Air Sampling During Contaminated Soil Removal

5.9.1. Stationary Air Sampling

During ACS removal, the perimeter of the exclusion zone will be monitored for asbestos structure migration by collecting a stationary air sample from the downwind direction at the exclusion zone boundary. All stationary sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b).

TQA is responsible for coordinating the collection and analysis of stationary sampling.

If more than 2 LA structures are detected on a perimeter afr sample, site-specific engineering controls and work practices will be reviewed by the USACE, EPA, TPIC and/or RC personnel. The RC is responsible for implementing any necessary corrective actions in a timely manner.

5.9.2. Personal Breathing Zone Air Sampling

TQA will coordinate the collection and analysis of task-based personal BZ air samples on RC personnel conducting ACS removal to document that the level of respiratory protection is adequate for the task being conducted. All personal BZ sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b).

If personal BZ samples are reported above the respective permissible exposure limit for the appropriate sample, the sample may be confirmed by TEM as specified in the *Response Action Sampling and Analysis Plan* (CDM 2011b). If the result is above the PEL, USACE and the RC will assess work practices, evaluate contributing factors, and modify engineering controls as necessary.

TQA will supply BZ sample results to the RC. The RC is responsible for posting these results in a location readily available to its employees.

5.10 Property Security

For removal actions that require the relocation of the residents, the RC will supply personnel to provide security whenever the RC is not on-site and the property cannot be locked. The PCT will ensure that, if necessary, proper security is being provided during the time the resident is relocated from their property. The level of security may vary from periodic patrols to on-site full-time based on the location of the property and whether it is adjacent or close to other properties under security. This will be evaluated and determined by the RC.

The RC is responsible for site security during regular working hours.

6.0 Restoration Activities

6.1 Roles and Purpose

Following the completion of removal activities, a property will be restored to a condition equal or similar to that which existed before the removal work. Aspects of work include, but are not limited to the backfill, grading, and compaction of replacement soil, and the replacement, installation, or repair of borders, fencing, insulation, and miscellaneous items associated with the removal activity.

The RC will submit product samples, product data, and descriptions of the materials proposed for use in restoration to USACE upon request. All materials require approval by the USACE and, in instances of property specific materials such as landscape rock, approval from the property ovmer may be requtred. In addition, all new materials used in restoration will be new, free of LA, and comply with local building codes.

6.2 Restoration Preparatory Inspection

No inspections or work activities will be performed without a finalized work plan on-site.

Prior to the start of any work activities at the site, QA and QC will hold a preparatory phase inspection to review site remediation activities and to ensure that RC restoration personnel and TQA personnel have consistent finalize plans. Additionally, imminent hazards identified will be evaluated to determine if corrective actions are necessary, and will be noted on the AHA.

The RC will decontaminate and demobilize the equipment used for the removal of ACS or ACM from the immediate area prior to the commencement of restoration activities. Property restoration will be conducted in Level D PPE provided that workers and equipment are only in contact with clean fill and will adhere to the requirements outlined in tne APP.

Dust control on-site will be maintained by the RC at all times. Dust control will be employed during restoration activities to minimize generation of nuisance dust emissions. The RC will provide all water necessary to control dust on the property and adjacent roadways, all water necessary for thorough compaction of backfill materials, and all other water necessary to complete restoration activities.

Restoration activities will comply with the site-specific work plan with primary constmction quality control performed by the RC and supported by TQA personnel. The RC will also ensure the quality control of any landscaping subcontractors. Following completion of excavation activities and prior to the start of restoration activities, the restoration quality control designee, the TQA and the restoration foreman, or designee, will conduct a preparatory restoration inspection. During restoration, USACE and/or TQA personnel will perform and document inspections at least once per day per property to ensure compliance.

6.3 Exterior Restoration

Once excavation activities are complete and all necessary confirmation sampling is performed in a sampling area at a property, the RC will initiate property restoration activities using the specifications in the following sections.

6.3.1. Fill Material Type and Specification

Specific backfill material to be used for restoration is included in the site-specific work plan. Fill material may consist of, but is not limited to, the following:

- Common fill
- Structural fill (¾-inch minus)
- Gravel (e.g., ¾-inch washed gravel, pea gravel)
- Topsoil
- Sand
- Potting soil

Topsoil and common fill will be provided by contracted vendors in accordance with contract specifications and after USACE approval of the material. All fill material supplied by the RC will be inspected for vermiculite and sampled for LA and enviromnental contaminants as detailed in the *Fill Material Sampling Technical Memorandum, Libby Asbestos Site* (CDM 2011c). No fill material will be utilized prior to the receipt of the visual and analytical data and the clearance of the material. The RC is responsible for ensuring that all fill material has been cleared prior to use.

All fill material for the restoration will originate from outside the Libby Valley and will meet the specifications outlined in the *Fill Material Sampling Technical Memorandum, Libby Asbestos Site* (CDM 2011c)

6.3.2. Placement of Backfill

Before backfilling, the excavation area will be examined by the RC for any conditions detrimental to restoration. If any unfavorable conditions exist (e.g., saturated areas, snow, ice), backfilling will not begin until conditions change or the unacceptable material removed, as directed by USACE.

Backfilling and grading will be performed by the RC in a manner and sequence that will avoid damage to properties, houses, garages, utility poles, fences, decks, sprinkler systems, streets, or other features near the work areas. In cases where existing topography limits drainage options, those limitations will be documented on the QC Daily Site Report and the QAR.

If a physical barrier has been installed by excavation crews, restoration crews will ensure that the barrier remains in place during backfill activities.

6.4 Sub-grade Installation Requirements

Sub-grade fill material, common fill, will be placed by the RC using "clean-to-dirty" techniques. Sub-grade fill material will be end-dumped from a clean area and spread to make a path for subsequent loads ensuring the haul trucks do not drive over any possibly contaminated areas.

6.4.1. Placement Grading

The RC will grade newly placed fill material in a manner to replicate or improve the former contours of the property. Improvement of the former topography will be performed only to provide positive-runoff away from stmctures and outbuildings. Changes in grade directed by the property owner may be implemented provided the changes and any potential adverse impacts from the grade changes are documented, and the property owner signs a Hold Harmless document for those potential impacts.

The RC is responsible for ensuring that fill material of any type will meet requirements listed below:

- All placed and compacted common fill sub-grade material, topsoil, and other fill material (e.g., stmctural fill and gravel) is sloped away from building foundations, regardless of original grade, to allow for proper water drainage. Positive drainage will be required for the first three feet away from the foundation. The USACE on-site representative will be notified when existing property conditions prevent attainment of positive drainage. TQA will document grading in the QAR report.
- All original site topography not adjacent to property stmctures, not interfering with the proper drainage requirements for stmctures, will be restored to the original grade or as

indicated on the site-specific work plan. Survey control to re-attain prior topography will not be required.

- Original site drainage conditions are not altered in any way that negatively impacts or damages site materials or buildings.

6.4.2. Compaction of Graded Materials

Compaction equipment will be of suitable type and adequate to obtain the soil densities specified and will provide satisfactory breakdown of materials to form a dense fill. Acceptable compaction equipment includes pneumatic tire, tamping foot, sheep's foot, drum roller, or vibratory plate compactor. The use of other types of compaction equipment by the RC requires prior approval by USACE.

The RC will be solely responsible for modifications to the moisture content of all materials required to achieve the specified compaction.

The RC will be responsible for the quality of work and materials during restoration and for any settlement of backfill materials. All work found unsatisfactory to the USACE on-sight representative will be corrected.

Common fill material will be used to backfill the excavated area to within 3 inches below final grade in yard areas and to within 18 inches below final grade in gardens or within 12" in flowerbeds, as indicated in the site-specific work plan. Modifications to this criterion may be directed by EPA, or USACE.

Common fill material will be placed and compacted with a moisture content that produces a relatively uniform finish, free from irregular surface changes. The RC will not place fill over frozen sub-grade, snow, ice, saturated soil, or ponded water. Common fill will be placed in layers (lifts) that result in compacted soil not exceeding 6 inches in thickness.

The RC will constmct a performance specification (suitable equipment and specified compaction effort) for that material. Performance specifications will be required for variances in fill material source. Fill lifts for common fill material will be compacted to at least 85 percent of the maximum dry density, within 3 percent of optimum moisture, as determined by laboratory test American Society for Testing Materials (ASTM) D698 (standard Proctor). Fill lifts for stmctural fill on roadways will be compacted to at least 95 percent of maximum dry density. Density testing will be performed as required by USACE. Once a performance specification is developed, all common fill and stmctural

fill will be placed in accordance with that specification. USACE will direct changes in the compaction procedure in writing as needed if problems meeting compaction are identified.

6.4.3. Topsoil Compaction and Placement

Topsoil will be used to backfill the top four inches of the excavation in yard areas, the top 12 inches of the excavation in flowerbeds, and the top 18 inches of the excavation in gardens, as indicated on the site-specific work plan. Modifications to these criteria may be directed by USACE with approval of the EPA.

The RC will not place topsoil over frozen sub-grade, snow, ice, saturated soil, or ponded water. The topsoil will be placed so that haul trucks do not repeatedly drive over newly placed topsoil.

The RC will begin placing topsoil opposite from the truck entry. The RC will be responsible for correction or remediation of any fill material not placed in accordance to USACE and TQA inspection standards. Topsoil will be used for the top four inches below the final grade in all areas except for flower beds and gardens, which will receive twelve to eighteen inches of topsoil respectively.

In yard areas, the topsoil will be left un-compacted or loosened after placement if necessary, in a manner that facilitates growth of groundcover. In gardens and flowerbeds, the topsoil will be placed and moderately compacted with hand-tools. The top four inches of topsoil will be left un-compacted or loosened after placement, so that the topsoil will properly accept growth media. To account for settling, topsoil will be mounded above borders in gardens, flowerbeds, and planters.

All depressions caused by settlement will be filled with additional topsoil, and re-graded to match existing contours. Prior to the placement of hydro-seed, the finish grade of fhe topsoil will be inspected and approved by the USACE on-site representative or TQA.

6.4.4. Seeding of Restored Areas

After the restoration of a property is near completion (i.e. no more anticipated foot traffic over areas that will be seeded), the following steps will be followed:

1. The areas that will be seeded will be fertilized with the appropriate type and quantity of slow-release fertilizer. Fertihzer type will be determined by the lab analysis for nutritive qualities of the topsoil used in restoration.
2. ¾ of the appropriate volume of seed (determined by seed type and area) will be apphed to the soil.
3. The soil will be raked or conditioned to achieve uniform seed distribution and seed penetration in the top ½ - 1" of soil and to remove stiff clods, lumps, roots, other foreign material, and objects larger than 1 inch in any dimension..
4. Following the apphcation of seed into the top ½-1" of the soil, hydro-mulch / seed mixture will be apphed with ½ of the appropriate volume of seed (determined by seed type and area).
5. The RC may apply an additional application of fertilizer prior to the on-set of winter, as directed by USACE.

6.4.5. Fences, Decks, and Other Exterior Items

Any fences, decks, or other items temporarily removed during site set-up will be reassembled or replaced in kind by the RC, as stated in the site-specific work plan. These items will be reassembled or replaced before the installation of landscaping. Any damages incurred during disassembly will be repaired or replaced by the RC.

Damage to portions of fencing, decorative borders, or enclosed areas incurred during the removal process will be repaired or replaced, and will not justify replacement of the materials to match former colors that may have been affected by weathering or state of material degradation. Sheds, fences and decks in advanced stages of deterioration will be identified and noted by the PCT to inform the property owner of replacement options, or lack thereof, prior to removal activities.

Upon completion, structures that were disassembled or removed during the removal activity and then reassembled will be inspected by QC, TQA and/or the USACE representative for quality of work and durability. If sheds or other structures were removed during site preparation, they will be retumed to their original locations or to locations specified in the site-specific work plan.

6.4.6. Pre-existing Damage to Propane Systems

Propane systems will not be brought up to code as part of the removal action. Reconnection of any disconnected out of code systems will be the responsibility of the property owner. No backfilling will be performed around propane infrastmcture until the propane system is operational if the deficiency is caused by the underground lines. The

excavation around propane infrastructure will be sloped and left open. The property owner will be notified.

6.4.7. Landscaping

All landscaping elements will be replaced back to the original condition of the property by the RC. Vegetation replacement forms for local landscapers/nurseries will be provided as an option to property owners. Replacement will be equal to the monetary sum of materials or vegetation removed by the RC.

6.4.8. Vegetation Damage

In the event that vegetation (e.g., trees, grass, decorative plants, etc.) is removed by the RC during removal activities due to expansion of the removal area or damage in areas not associated with the removal process, the nursery stock value of the vegetation will be added to the landscape inventory. Trees and shrubs will be replaced with standard nursery stock of the same variety or an equivalent cost alternative variety of the property owner's choice, with no additional compensation provided for maturity of the vegetation removed or damaged.

6.4.9. Changes to the Site-specific Work Plan

Changes during restoration will be documented any time there is a deviation from the site-specific work plan. Any changes to the restoration plan will be documented by the quality control person by marking the change on the QC site-specific work plan and/or noting it on the punch-hst tracking sheet. Changes will be maintained by QC and TQA and will be incorporated with the final plan and available for review during the course of the restoration. Following the completion of the restoration, the changes are submitted to the PCT and documented on the QAR.

6.5 Restoration Final Inspection

Damages or deficiencies observed during the post-removal inspection will be included on the punch list of items to be completed by the RC prior to the removal final inspection. Documentation such as photographs, field notes, and pre-cleanup checklists will be referenced to determine if damages are pre-existing or a result of the removal activities. If deficiencies are noted, the RC will address punch-list items in a timely fashion.

Once all punch-list items have been addressed, the restoration final inspection will be performed by TQA and QC personnel. The USACE on-sight representative may also be present.

During the restoration final inspection, inspectors will review the site-specific work plan to ensure all removal and restoration items noted in the site-specific work plan are completed to performance standards, with the exception of landscaping. The walkthrough inspection will include a thorough documentation of the property's existing conditions so that, if necessary, post-cleanup conditions can be compared to pre-removal conditions.

Unless significant punch list items remain, the restoration final inspection is complete.

6.5.1. Homeowner Inspection

The PCT will coordinate with the resident to schedule a move-in time (if applicable). In addition, the PCT will commence property close-out procedures.

The property ovmer will also conduct an inspection of the property. Any deficiencies will be communicated to the PCT, and will be designated as a call back.

6.5.2. Landscaping Quality Control and Quality Assurance

The RC and TQA will perform regular inspections of landscaping activities that are performed by the landscape subcontractor. A final inspection will also be performed. If the completion of landscaping activities will be delayed due to planting requests of the property owner (i.e. waiting until Spring) or unavailability of landscape materials, the reason for the delay, the remaining items to be completed, and the intended schedule for completion will be documented in the QAR and QC documentation.

6.5.3. Call Backs

Call backs will be addressed on a case-by-case basis to determine the legitimacy of the claim made by the property owner. If the call back is due to improper or insufficient restoration, the call back will be addressed. The RC will consult the pre-removal site condition documentation to make this determination.

Call back requests will be discussed at the DCOM. Assignments will be made to address call backs as soon as possible, on a schedule approved by USACE. Inability to address

the call back in a timely matter will be noted as a deficiency on the Deficiency Tracking Log.

All requests for call back work and performance of call back work will be communicated to the EPA hotline by the PCT.

7.0 Former W.R. Grace Rainy Creek Mine Operations

7.1 Roles and Purpose

The RC will dispose of all ACS from removal activities at the former W.R. Grace Rainy Creek Mine site (Mine) in accordance to the requirements described herein. The RC will operate, maintain, and conform to all requirements and guidelines as described in the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a). The RC will furnish all labor, supervision, materials, equipment, tools, permits, and incidentals necessary to perform all mine operation activities at the Mine.

QC personnel will be responsible for regular inspections of Mine activities.

TQA will be responsible for air monitoring, environmental sampling, and quality assurance of mine operation activities.

7.2 Mine Personnel Training Requirements

RC mine operations personnel are to comply with all health and safety training requirements as described in the APP and Section 4 of the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a).

7.2.1. Personal Air Monitoring Requirements

TQA will coordinate collection and analysis of task-based BZ air samples on RC personnel conducting mine operations to document that the level of respiratory protection is adequate for the task being conducted. All BZ sampling will be conducted in accordance with Section 8 of the *Response Action Sampling and Analysis Plan* (CDM 2011b).

TQA will supply BZ sample results to the RC to satisfy OSHA requirements. The RC is responsible for posting these results in a location readily available to its employees.

7.3 Mine Site Disposal Operations

ACS arriving at the Mine will be coordinated by the RC mine site operator. RC mine operations personnel will direct each load to the proper disposal location (usually the Amphitheater).

The RC will ruaintain security at the junction of Rainy Creek Road and Montana Highway 37 when the gate is open for operations.

7.3.1. Traffic Control Plan

The RC will ensure that hauling practices are in accordance with Mine traffic control requfreruents below:

- All vehicles proceeding up the road past the decontamination trailer will be equipped with a positive pressure HEPA filtration system in the passenger compartment. In addition, all occupants of the vehicle will have at least a half-face respirator with p-100 filters and a protective suit. These will be for exiting purposes should the vehicle become inoperable.
- Loaded trucks exiting MT Highway 37 to proceed up the nine road will use caution. Speed will not exceed 25 MPH when passing the guard station and the decontamination trailer.
- Loaded trucks on the road between the amphitheater and the mine will follow the posted speed lunit of 30 MPH.
- Traffic exit downhill toward the guard station will follow the posted speed hmit.
- Loaded haul trucks have the right-of-way. Empty trucks will slow to less than 10 MPH when approaching/passing loaded trucks.
- Vehicle operators wlll be aware of the runaway truck ramp, and will use it in case of an emergency.
- Passing (over-taking) of any moving vehicle on any part of the mine road is prohibited.
- Dumping operations will halt when the road becomes slick with rain or snow and during electrical storms.
- All visitors to the mine must be accompanied by project personnel in appropriate positive atr equipped vehicles with back up PPE, and will sign-in at the guard station.
- When hauhng from the amphitheater is in operation, all vehicles proceeding past the amphitheater are requtred to follow a haul truck up the road to the mine and down from the mine to the amphitheater.

7.3.2. Transportation Requirements

All truck drivers and RC nine operations personnel are to be trained in accordance to *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a).

Trucks hauling soil from the amphitheater to the nine are not requfred to tarp their trucks.

7.3.3. Equipment Decontamination

The RC is responsible for implementing heavy equipment decontamination procedures when moving out of the exclusion zone or transporting equipment away from the mine.

Mine operations personnel will thoroughly decontaminate any vehicle prior to leaving the Mine. Mine operations personnel are to unlock the tailgate lock on haul tmcks, and pressurized wash all exterior components of disposal vehicles with water in accordance with Section 10.3 of the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a). Haul trucks will be rinsed off with water to remove all visible soil before transport. TQA or RC competent person will inspect decontaminated vehicles prior to leaving the decontamination pad.

Before being taken off use from the project or before use in a clean area, all heavy equipment must imdergo a full interior and exterior decontamination by the RC. Any heavy equipment used at the mine beyond the asphalt at the amphitheater must receive full decontamination prior to being taken off use for that task even if the equipment would be used on another removal task.

Full decontamination includes removing protective plating (skid plates), pressurized washing of all surfaces, cleaning the interior of the engine compartment, cleaning of the undercarriage, cleaning of the track adjusters, removing floor mats, and an extensive cleaning and wipe-down of the cab. The RC will notify TQA for inspection and documentation of the decontamination before moving or using the equipment. The RC will fill out a Decontamination Checklist. TQA will verify the decontamination and note it in their QAR. The RC will retain the original form in thefr files.

At the end of the construction season or before being taken off use from the project, the RC will remove, replace, and dispose of any air filters (air-intake, cab, etc.) from equipment and vehicles that have been inside an exclusion zone. All filters from equipment that has been in an exclusion zone will be disposed of as ACM. Filter removal and disposal will be documented by the RC on the Decontamination Checklist. USACE will be notified by the RC before any heavy equipment is decontaminated and removed from project service and by TQA when its decontamination is completed.

Portable equipment (pumps, pressure washer) that enters the exclusion zone will have their air filters replaced at the time of normal maintenance or the end of the construction season. The RC will document the filter removal and replacement and dispose of the old filter as ACM.

Positive-pressure unit pre-filters will be replaced at least once a year. The primary HEPA filter will be replaced as per the manufacturer's recommendations. Filters will be disposed as ACM. Filter change out will be documented on the Decontamination Checklist.

USACE reserves the right to verify decontamination activities and standards before moving the equipment between properties or before demobilization of a piece of equipment.

7.3.4. Personnel Decontamination

Persomel decontamination will be performed in accordance with Section 6.2 of the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a).

7.3.5. Water Use and Supply

The RC is responsible for supplying an adequate quantity and source of water for mine operations and disposing of decontamination wastewater in accordance with Section 10 of the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a).

7.3.6. Dust Control Procedures

The RC will implement dust control measures to maintain haul and disposal roads free from detectable and visible dust emissions at all times as detailed in Section 10.2 of the *Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan* (CDM 2011a).

7.4 Waste Shipment Records

All materials transported for disposal to the Mine will be accompanied by an asbestos WSR that will document the following information:

- Property Address from which the material is originating from (E911)
- Property AD number
- RC Name and Mailing Address
- RC telephone number
- Waste disposal site information (i.e., Rainy Creek Mine)
- Name and address of responsible agency (EPA, USACE, MDEQ)
- Description of materials and quantity
- Applicable handling instmctions
- Signature and name of RC personnel from the removal site
- Hauler name and signature

- Disposal site operator or security officer name and signature
- Disposal time
- Approximate volume of soil

7.5 Debris Removal

The RC will take reasonable measures against transporting non-soil debris from removal actions to the amphitheater.

Debris that has been transported to the Mine in the past will be segregated from the soils and removed from the Mine. The debris will be transported for disposal as ACM.

7.6 Site Security

The RC will provide security at the Mine entrance during all operational hours. Security will maintain an accurate record of entrance and exit of all traffic during the operational hours. Security personnel will notify the public that they are not allowed past the gate, inform authorized personnel of the mine road rules, and receive Waste Shipment Records for contaminated soil disposed of at the Mine. WSRs will remain at the security station until the end of the day when they will be delivered to the CMT.

8.0 Landfill Operations

8.1 Roles and Purpose

Removal-derived waste, including ACM, vermiculite, demolition debris, and rubbish, is to be disposed of at the Lincoln County Class IV Asbestos Landfill (Landfill) or another qualified waste disposal facility. This section details what is required for operation of the former. This section does not apply to the operations of waste disposal facilities other than the Lincoln County Class IV Asbestos Landfill. If disposal occurs at an off-site location, all local, state and federal regulations for transportation of the waste will be followed.

The RC is responsible for the operations and maintenance of the Landfill for project-related activities. The RC will furnish all labor, supervision, materials, equipment, tools, permits, and incidentals necessary to perform all Landfill operation activities at the Landfill.

TQA will be responsible for inspections, air monitoring, environmental sampling, and general oversight of Landfill operation activities.

8.2 Landfill Personnel Training Requirements

RC and TQA landfill operations personnel will comply with all health and safety training requirements as described in the APP.

8.3 Health and Safety Requirements

RC and TQA landfill operations personnel will comply with the health and safety requirements of the appropriate APP and EM 385-1-1.

8.3.1. Landfill Personnel Protection Requirements

The RC and TQA landfill operations personnel will comply with PPE requirements as listed in the appropriate APP.

Only RC personnel, TQA and visitors trained in accordance to the health and safety requirements as described in the appropriate APP are permitted within the active disposal cell area of the landfill.

8.3.2. Personal Air Monitoring Requirements

Appropriate levels of respfratory protection for project-related activities are provided in the APP. The RC will have on-site certification of completion of that training, fit test documentation and medical surveillance program documentation for each worker dressing out in respiratory protective PPE.

TQA will coordinate the collection and analysis of task-based BZ air samples on RC personnel conducting Landfill operations to document that the level of respiratory protection is adequate for the task being conducted. All BZ sampling will be conducted in accordance with the *Response Action Sampling and Analysis Plan* (CDM 2011b). Sampling frequencies for personal BZ air monitoring were established using task-based BZ sampling data collected during the 2002 - 2006 Libby Project field seasons. BZ air sampling will consist of collecting one TWA sample and STEL (i.e., one 30-minute excursion) sample per task a minimum of every 6 months. Sampling frequencies will be adjusted as necessary.

If personal BZ samples exceed the respective permissible exposure limit for the appropriate sample, the sample may be confirmed by TEM as specified in the *Response Action Sampling and Analysis Plan* (CDM 2011b). The RC will assess work practices, evaluate contributing factors, and modify engineering controls as necessary.

TQA will supply BZ sample results to the RC to satisfy OSHA requirements. The RC is responsible for posting these results in a location readily available to its employees.

8.4 Site Disposal Operations

The RC will ensure the compliance of state and federal regulations regarding the disposal of waste and landfill operations including ARM 17.50.511(3) which regulates the design and maintenance of landfill operations. During all phases of landfill operations or construction, the RC Landfill operations personnel are to comply with OSHA 29 CFR 1910.120.

8.4.1. Zone Delineation

With the exception of the initial entrance and support zone inside the northeast gate, the Landfill's fence line will also serve as the exclusion zone boundary. The decontamination pad will serve as the contamination reduction zone.

8.4.2. Traffic Control Plan

All trucks entering the landfill will pass the guard shack at the landfill's entry on the right side. The driver will be acknowledged by the landfill security prior to entering the landfill. The driver will not pass any cars waiting at the security station .

8.4.3. Transportation Requirements

All truck drivers and RC Landfill operations personnel are to be trained in accordance with Section 8.

Haul vehicles, trailers, and roll-off trucks arriving to dispose of ACM debris will be equipped with positive air pressure HEPA filter systems prior to arriving at the Landfill entrance. The RC will ensure that all operators are fully trained in usage of the air filtration systems. All positive pressure units used by the RC will have an identification number. The RC will supply this identification number to USACE upon request. Drivers will not be allowed to exit their trucks while in the exclusion zone.

The RC will ensure that all haul trucks used to transport ACM undergo annual DOT certification inspections. Copies of the inspection reports will be submitted to USACE upon request.

All trucks equipped with dump beds and dump trailers will be equipped with weather tight canvas tarps or roll roofs that are placed in a manner to prevent the release of visible or detectable dust emissions prior to entering the Landfill. Tmck bed covers will be inspected prior to entrance to the Landfill by a competent person or TQA. Damaged or defective covers will be replaced or repaired prior to re-use and re-entry into Landfill service.

Roll-off trucks with vacuum boxes will be equipped with a sealed, watertight locking mechanism for the containment of ACM upon arrival at the entrance gate of the Landfill site. Any damaged or inadequately sealed boxes observed by RC Landfill operations personnel or TQA will be immediately removed from service until the necessary repairs or corrections are made.

8.4.4. Equipment Decontamination

The RC is responsible for implementing heavy equipment decontamination procedures when moving out of the exclusion zone or transporting equipment away from the Landfill.

The RC will construct and maintain a decontamination facility at the Landfill in an area of the designated exclusion zone and bordering the clean zone of the Landfill. QC or TQA will inspect decontaminated vehicles prior to leaving the decontamination area. Mechanized equipment dedicated for use in Landfill operations will be decontaminated in the same manner prior to exiting the exclusion zone.

Landfill personnel will thoroughly decontaminate the exterior of any vehicle prior to leaving the Landfill. Landfill personnel are to unlock the tailgate lock, and pressure-wash all exterior components of disposal vehicles with clean water. Heavy equipment will be rinsed off with water to remove all visible soil before transport. TQA or RC competent person will inspect decontaminated vehicles prior to leaving the decontamination area.

The RC will ensure that all appropriate controls of decontamination water are implemented to prevent releases of material outside of the exclusion zone.

Before being taken off use from the project or before use in a clean area, all heavy equipment must undergo a full interior and exterior decontamination by the RC.

Full decontamination includes removing protective plating (skid plates), pressurized washing of all surfaces, cleaning the interior of the engine compartment, cleaning of the undercarriage, cleaning of the track adjusters, removing floor mats, and an extensive cleaning and wipe-down of the cab. The RC will notify TQA for inspection and documentation of the decontamination before moving or using the equipment. The RC will fill out a Decontamination Checklist. TQA will verify the decontamination and document it in their QAR. The RC will retain the original form in thefr files.

At the end of the construction season or before being taken off use from the project, the RC will remove, replace, and dispose of any air filters (afr-intake, cab, etc.) from equipment that has been inside an exclusion zone. All filters from equipment that has been in an exclusion zone will be disposed of as ACM. Filter removal and disposal will be documented by the RC on the Decontamination Checklist. USACE will be notified by

the RC before any heavy equipment is decontaminated and removed from project service and by TQA when decontamination is completed.

Portable equipment (pumps, pressure washer, etc.) that enters the exclusion zone will have their air filters replaced at the time of normal maintenance or the end of the construction season. The RC will document the filter removal and replacement and dispose of the old filter as ACM.

Positive-pressure unit pre-filters will be replaced at least once a year. The primary HEPA filter will be replaced as per the manufacturer's recommendations. Filters will be disposed of as ACM. Filter change out will be documented on the Decontamination Checklist.

USACE reserves the right to verify decontamination activities and standards before moving the equipment between properties or before demobilization of a piece of equipment.

8.4.5. Personnel Decontamination

The RC will establish a properly demarcated, HEPA-filtered, 3-stage decontamination trailer or equivalent consisting of an equipment room (dirty room), shower area, and a clean room for personnel decontamination, in accordance with OSHA Standard 29 CFR 1926.1101(g). Personnel decontamination procedures will be posted in the clean and dirty rooms so that personnel may read and take necessary steps to ensure their safety. The RC must perform regular housekeeping duties within all decontamination facility rooms to ensure and maintain their cleanliness. Documentation of such housekeeping will be posted in the clean room of the decontamination facility and made available to USACE upon request.

The RC will provide a first aid station, fire extinguishers of proper size and type for use in Landfill operations, fencing, traffic signs, traffic tape, and all sundries for the use in Landfill operations.

The RC will use potable water for all personnel decontamination, in accordance with OSHA Standard 29 CFR 1910.141(b)(1)(i). All potable water dehvery systems must be disinfected on a regular schedule, with greater frequency during the summer months. The RC must include disinfection of its potable water systems on the weekly schedule. Documentation of potable water equipment inspections and disinfections must be

maintained by the RC, made visible to personnel using a particular water source, and provided to USACE upon request.

8.4.6. Decontamination Pad Maintenance and Inspection

The RC will periodically clean-out sediment and water from the decontamination pad sumps. Wastewater and sediment derived from the cleaning activities will be disposed of at the active Landfill cell. QC and TQA will determine the cleanliness of the decontamination pad prior to re-use.

8.4.7. Water Use and Supply

The RC is responsible for supplying an adequate quantity and source of water for Landfill operations.

The RC will use city supplied water, from a hydrant source, water pumped from the designated Kootenai River pump site or other USACE-approved source for vehicle and equipment decontamination activities. No water source is present at the Landfill site. Water will be stored in a storage tank of appropriate size so as not to disrupt Landfill operations.

Water used for use at the Landfill in decontamination activities will be periodically sampled for the presence of LA by TQA as detailed in the *Response Action Sampling and Analysis Plan* (CDM 2011b). Water not meeting project standards, regardless of the source, will be rejected for project use. Landfill operations will cease until the matter is corrected to project standards.

8.4.8. Decontamination Derived Waste Water

The RC will ensure that all waste water from decontamination activities will be controlled in a manner so that it is contained prior to disposal at the active disposal site. In the event that the QC or TQA observes an uncontrolled release of decon-water, the RC will correct the matter immediately.

8.4.9. Spill Prevention Measures

RC Landfill operations personnel will control the release of pollutants derived from the lubrication, repair, maintenance, or accidental release from equipment or vehicles at the Landfill. The RC will not allow pollutants (e.g. hazardous chemical, oils, fuels, etc.) to enter the soil, surface water, or groundwater at the Landfill. The RC will comply with all

applicable federal, state, and local regulations regarding the pollution of soils, surface water, and groundwater. Special measures, with approval from USACE, may be implemented to prevent chemicals, fuels, oils, greases, and other materials from entering public waters.

8.4.10. Dust Control Procedures

The RC will implement dust control measures to maintain haul and disposal roads within the confines of the designated asbestos cell free from detectable and visible dust emissions at all times. RC Landfill operations personnel will use water or the application of a chemical (non-water) dust suppressant for use as required. The use of a chemical dust suppressant will be used only after approval from the USACE.

8.5 Waste Disposal Operations

8.5.1. Vacuum Units and Roll-off Vacuum Boxes

After entering the fenced landfill area, vacuum units and vacuum boxes will be placed in the misting tent. The dumping of waste stored in vacuum units and vacuum boxes will occur inside the misting tent. Waste will be dumped into the 3-sided concrete loading bin within the misting tent, located on the unloading ramp. The RC will activate the misting system within the tent during all off-loading activities inside the tent. Care will be taken to minimize the amount of waste material that becomes airborne.

After the vacuum unit or vacuum box has been dumped, the RC will transport the waste into the asbestos cell using the appropriate equipment.

8.5.2. Dump Trucks

Dump trucks or dump trailers with double-bagged ACM, demolition debris, and/or small amounts of asbestos containing soil will proceed directly to the working face of the asbestos cell and bypass the misting tent. The RC will implement dust-control measures during this operation.

8.5.3. Temporarily Stored ACM

The RC may temporarily store ACM outside of the Landfill perimeter. Properly bagged ACM will be placed in a roll-off box or stored in a designated location. The roll-off box or designated location will be properly marked according to OSHA regulations. Properly bagged ACM may also be stored in the misting tent awaiting the next landfill event.

8.5.4. Cover Material

Prior to placement of cover material, equipment will undergo decontamination to remove gross material from the exterior of the machine.

RC Landfill operations personnel are to use appropriate equipment for the placement, compaction, and distribution of waste. Waste will be distributed in uniform, compressible lifts. RC will perform due dihgence to keep lifts to less than 3 ft. in depth, when possible, prior to the placement of cover material. Cover material will be placed at a minimum of once per day per dump event. Placement will be performed in a uniform manner to prevent sinking and allow landfill equipment and haul vehicles to enter the disposal area for fiiture operations. No waste material will be left exposed overnight. Cover material volumes will be calculated and documented by survey control of cover material stockpiles. Total landfill waste placement and USACE tipping fee liability will be determined by survey methods where cover material fill volumes are subtracted from total fill volumes to arrive at placed waste volumes.

8.6 Waste Shipment Records

All materials transported for disposal to the Landfill site will be accompanied by a WSR that will contain information as follows:

- Property address (E911) and AD number from the site where the material originates
- RC name, telephone number and mailing address
- Waste disposal site infonnation (i.e., Lincoln County Landfill)
- Name and address of responsible agency (EPA, USACE, or MDEQ)
- Description of materials and quantity
- Applicable handling instmctions
- Name and signature of RC person at the removal site
- Hauler name and signature
- Disposal site operator or QC name and signature

Materials hauled to the Landfill by the RC without an appropriate WSR will be rejected for disposal until the WSR is properly manifested.

The conversion rate of bags of ACM to CY used for the purpose of documentation of is 10:1.

WSRs will be retained by the Landfill QC until the end of the day when the records will be delivered to the CMT.

8.7 Site Security

The RC will provide security at the Landfill entrance during all operational hours.

9.0 Removal Action Quality Management and Documentation

9.1 Roles and Purposes

All government representatives and contractors on-site perforin a role in Constmction Quality Management. The goal of Constmction Quality Management is to ensure that work on the Libby Asbestos Site is performed in accordance with the site mles as stated in this and other documents, that the work is performed safely and according to design, and that the work is perfonned in a cost-effective manner. All parties will use the USACE 3-phase inspection process that will be implemented for each definitive phase of work.

9.1.1. Quality Assurance

Primary constmction quality assurance (QA) will be performed by the USACE representatives to protect the interests of the govemment. USACE personnel ensure that construction quality management is working effectively through the use of reviews, inspections, tests, and performance evaluations.

9.1.2. Construction Quality Control

The role of construction quality control (QC) will be filled by the RC management and QC personnel, in addition to the operators, drivers and laborers performing removal and restoration activities in accordance with the standards and protocols described within this document. The RC will provide the primary means of ensuring that work performed on the project meet the specifications of the contract.

9.1.3. Third-party Quality Assurance

The role of Third-party Quality Assurance will be implemented by qualified Third-Party personnel. TQA personnel will be under contract to USACE to assist in QA inspections during the removal process and following completion of a given phase of work. The role of TQA is to observe the removal activities and provide quality assurance for applicable standards set forth in the site guidance documents and site-specific work plans. It is the responsibility of TQA personnel to be knowledgeable of the restoration plan requirements, project SOPs, and site safety requirements.

TQA will communicate issues in real-time to QC personnel and/or USACE on-site representatives for issue resolution.

9.2 Daily Close-out Meeting for Removals and Restoration

It is the responsibility of the CMT to hold a DCOM with parts of the Construction Management Team to discuss Site planning, progress, and scheduling for construction. The following is the minimum discussed at each DCOM:

9.2.1. Upcoming Events or Milestones

The RC will ensure that the appropriate personnel are aware of upcoming events and that preparations are made for those events. A summary of the forward look for Site activities will be communicated to the Construction Management Team persomel attending the daily close-out meeting.

9.2.2. Changes to Site-specific Work Plans

Changes to site-specific work plan will be discussed at DCOM. Any questions or issues regarding the changes will be discussed and resolved. The QC and TQA team leaders will be responsible for disseminating information on the changes to the appropriate QC or TQA field person respectively.

9.2.3. Callbacks, Outstanding Punch-list Items and Hotline Requests

New callbacks, outstanding punch-list items and EPA post-removal hotline requests will be discussed during the daily close-out meeting. One individual will be assigned to ensure the completion of each item that need to be addressed and a specific timeline will be assigned as well.

Resolution of existing callbacks or hotline requests will also be discussed during the daily close-out meeting. The RC will communicate the resolution of these issues to the EPA hotline.

Failure to complete the resolution of the callback or hotline issue will be discussed in the daily close-out meeting. If necessary, the failure will be documented in the Deficiency Tracking Log.

9.2.4. Equipment Demobilization

Any equipment that is demobilized from the site will be discussed in the daily close-out meeting. The RC will ensure that proper decontamination procedures were followed prior to demobilization. Near fiiture equipment demobilization and equipment changing from removal tasks to restoration tasks will be planned and discussed with USACE.

9.2.5. Schedule

The schedule for the next day will be discussed in detail. Personnel will be assigned to specific properties. Anticipated inspections, preparatory and final, will be discussed and coordinated. The progress of the removal and restoration crews will be discussed.

Landfill events will be discussed and scheduled.

The schedule for the upcoming weeks will be discussed and updated. Updated schedules will be distributed daily to the CMT.

9.2.6. Security

The security needs will be discussed at tire daily close-out meeting. The PCT will coordinate the security needs with the security personnel.

9.2.7. Safety

The SHSO will give a daily safety update. Safety needs for upcoming events will be discussed.

9.2.8. Quality Control/Quality Assurance

USACE QA personnel will discuss the inspections they performed that day. Any concerns from QA will be discussed and resolved.

QC and TQA personnel will discuss any issues arising from the day's tasks. Any concerns or issues will be discussed and resolved.

9.2.9. Deficiencies

Site deficiencies will be discussed in the daily close-out meeting. Deficiencies and resolutions will be tracked in the Deficiency Tracking Log and reported in the DQCR.

9.2.10. Highlights from the Daily Close-out Meeting

Any and all programmatic changes that develop in the course of the DCOM will be noted by the RC in the DQCR and by the TPIC personnel. The changes will be disseminated to project personnel by the RC and TPIC. Changes may also modify the requirements of the RAWP, and will require an official RAWP modification as detailed in Section 1.1 and Appendix A.

9.3 Coordination for Design, Investigation, and Property Coordination

A regular coordination meeting will be held with team leaders irom the CMT, Design, Property Coordination and Investigation to coordinate the support of removal and remediation activities. The purpose of this meeting is to ensure that a steady supply of properties will be available for removal and that the proper documentation is submitted to EPA in a timely manner.

9.4 Scheduling

The RC is responsible for keeping and maintaining the Site removal and restoration schedule. The schedule will maintain at least a three week look-ahead for removals and restoration. Once a property design has been updated using the Property Removal Evaluation Form and the RRA has been signed by the property ovmer, the property will be integrated into the schedule. The schedule will be updated daily and made available electronically to the CMT by close-of-business each day.

9.4.1. Notification of Montana Department of Transportation

The CMT will notify a representative of the Montana Department of Transportation if removal actions will occur adjacent to any of the following roadways:

- US Highway 2
- MT Highway 37
- Farm to Market Road
- Kootenai River Road
- Pipe Creek Road

9.5 Three-phase Inspections

The USACE Construction Quality Management inspection process begins with the site pre-construction meeting at which time the general requirements of the work are defined, specifications are identified and briefly reviewed, and site operations are discussed. The work is segmented into phase of work for each project/property, typically removal and

restoration. Each task may have multiple phases of work which constitute a unique work process. For each of these phases of work the 3-phase inspection process is employed.

9.5.1. Preparatory Inspection

The first phase is the Preparatory Inspection. This phase is implemented prior to the start of any removal work. During this phase the site is inspected, plans, specifications and activity specific safety requirements are carefully reviewed, and the contractors approach to performing the required work is discussed. What constitutes acceptable and unacceptable work is defined at this time. The USACE on-site representative, TQA, the RC's site supervisor, Quality Control inspector, Site Health and Safety Officer (SHSO) and/or appropriate foremen are in attendance at this meeting. At a minimum, a QA representative and a QC representative will attend this inspection. In some cases critical operators or other craftsmen may also be present.

The finalized work plan must be on-site for the preparatory inspection. No work may be performed without the presence of a finalized work plan. The QA's and QC's finalized plan must be the same.

The preparatory inspection ensures that the removal activities will include all areas to be removed in accordance with site-specific removal designs, and that containment and all engineering controls are being implemented in accordance to the standards as described within this document, and that RC personnel are adhering to the terms of the site-specific work plan and Site guidance documents. TQA and QC personnel will resolve issues necessary for completion of the inspection or elevate issues as necessary.

Work on the site will not begin until TQA and QC agree on the level of preparation. Completion of the Preparatory Inspection will be documented in the QAR and Daily Site Report.

The preparatory inspection for the restoration may be performed prior to the completion of the removal, if both phases of work can be performed concurrently.

Preparatory Inspections will be scheduled and discussed in the Daily Close-out Meeting.

9.5.2. Initial Inspection

Following the Preparatory Inspection, actual work activities may commence. As soon as a valid evaluation of work process and work quality can be made, an Initial Inspection is

performed by the QC, the USACE on-site representative and/or TQA designee. Management from the RC may or may not be present. Work practices, compliance of work products with plans and specifications, compliance with safety, and efficiency are all reviewed and recorded on the QAR in the field in real-time, with the time of the inspection noted on the QAR. Deficiencies are immediately reported to QC for resolution. If deficiencies are serious, work is immediately stopped until resolved. Inefficiencies in observed work practices are also brought up for discussion. Following completion of the Initial Inspection and resolution of all issues, work is allowed to continue with some degree of follow-up inspection to ensure that the agreed-to changes are satisfactorily implemented.

9.5.3. Follow-up Inspection

Follow-up inspections are performed on a regular basis, no less than once per day at each active work site for each phase of work, if there are activities performed that day. All inspection requirements listed under the Initial Inspection are applicable to Follow-up Inspections. All observations are recorded on the QAR in the field in real time, with the time of the inspection noted on the QAR. All deficiencies will be resolved after they are identified, or will be elevated to USACE for resolution.

9.5.4. Final Inspection

At the completion of a phase of work, a final inspection occurs. Prior to this inspection, the phase of work is identified as complete by the RC. QC will notify TQA that the phase of work is complete and ready for inspection. During this inspection, TQA and QC either agree that the work is complete and suitable for initiation of a following phase of work that will be built upon the completed work, or a punch list of deficiencies is developed that need to be resolved prior to re-inspection.

Final inspections will be discussed and scheduled in the DCOM.

9.6 TQA Tasks and Deliverables

9.6.1. Assignment of New Properties

TQA personnel will be assigned oversight for removals at individual properties by the TQA team leader. CMT and QC personnel will coordinate the initiation of removal activities with the TQA personnel.

TQA personnel will be responsible for tracking the progress of their properties from the initial stages of construction until restoration activities are complete.

9.6.2. Quality Assurance Report

The TQA will submit QAR(s) daily. An individual QAR will be submitted for each of their properties undergoing activities that day. The QAR will note any of the significant benchmarks of removal and restoration progress, the locations and results of any visual inspections, conditions or activities affecting the progress or scheduled time of completion for a given task, any property damage or significant safety infractions, and the status of the property at the end of the work day. Any changes to the site-specific work plan, deficiency or deviation from the removal and restoration plan by the RC, and/or dispute with RC personnel will be documented in the QAR. Resolution will also be documented.

A signed hardcopy of the QAR will be submitted to the PCT the following business day for integration into the RC property's folder, and an electronic copy will be submitted to the CMT for integration into the DQCR. Any significant deviations or issues that could lead to adverse impacts to the property removal budget or schedule will be immediately reported to the USACE on-site representative for resolution.

An electronic copy of the QAR will be maintained by TQA. The TQA team leader will assign a naming mechanism for QAR electronic files that will be used uniformly by TQA personnel.

Upon completion of property close-out, all of the QARs for a property will be submitted to the Record Center Manager for scanning and upload to OSC.net. The originals will be filed in the Record Center property folder by the PCT.

9.6.2.1. TQA QAR Quality Control

The TQA Team Leader will periodically check individual TQA personnel to ensure that data is being collected real-time on the QAR. The TQA Team Leader will document these reviews and notify the USACE on-site representative of any major infractions observed and how those infractions were resolved. These issues will generally be resolved in real-time.

9.6.3. Property Closeout Checklist

TQA personnel are responsible for filling out the PCC. After population of all fields and verification of all values, the TQA will submit the PCC package that includes the PCC, draft red-line(s), and sample results for internal review. After the review, the complete PCC package is transferred to the PCT. The receipt of the PCC by the RC is recorded in the Property Coordination DQCR.

9.6.4. Daily Close-out Meeting

TQA personnel or their supervisor will attend the Daily Close-out Meeting and report on the status and outlook of their properties. They will notify the PCT when the completion of restoration activities is imminent.

9.6.5. Exterior Removal Reporting Requirements

TQA personnel are to identify and document project benchmarks and/or stages of exterior removal and restoration activities completed on QARs. Exterior removal and restoration activity milestones are to include, but are not limited to, set-up/containment, initiation of excavation, expansion of the excavation area based on observed visible vermiculite, omission of a removal area previously identified with contamination, the completion of excavation, confirmation samples that are collected that day, the initiation of backfill activities, periodic density testing, completion of backfill activities, completion of restoration. Also to be included in QARs are changes made as a result changes from the original crew packet, property owner requests, or the identification of conditions resulting in delays. Depths of excavations will be tracked and documented on a regular basis to ensure proper minimum depths are attained at all times. The use of engineering controls for dust prevention will be documented. Safety issues, including traffic control, will also be documented.

TQA and QC personnel are to visually inspect areas on the property outside the anticipated removal zones for the presence of visible vermiculite. If discovered, the boundaries of the excavation area will be extended, and the extension is to be documented on the draft red-line sketch and noted by TQA in the QAR. Extension of removal areas requires the approval of the TQA and the RC foreman. In the event of a disagreement between TQA and RC personnel regarding the presence of visible vermiculite, a designated qualified person will make the final determination in coordination with the USACE on-site representative.

9.6.6. Exterior Removal Action Documentation

TQA personnel are to provide a draft red-line sketch detailing excavation areas for each property that was removed, including the depth removed and the confirmation sampling grids and the associated Sample IDs that correspond to analytical results for each sampling area. The draft red-line sketch will be submitted to the Design Team for use in generating the Final Excavation Red-line Map for deliverable submittal to the POC.

9.6.7. Demolitions

The TQA is responsible for the video documentation of all structure demolitions. The entire demolition and load-out of debris will be recorded. Electronic video data will be submitted to the PCT.

TQA is also responsible for notifying MDEQ of demolition events.

9.6.8. Interior Abatement Reporting Requirements

In conjunction with the RC interior foreman, TQA will determine the design-build remediation methods to be applied to the interior, as outlined in Section 4.0. These methods will be determined real-time in the field when the interiors are first accessed by the interior foreman and TQA at the Interior PRE.

TQA is responsible for estimating the amount of vermiculite removed from interiors. These volumes will be reported on the PCC. The RC or TQA will identify and document pre-existing conditions when those conditions are observed in interior areas. Pre-existing conditions will be brought to the attention of the PCT and CMT for evaluation. The PCT will communicate those issues to the property's owner and generate a Pre-Existing Conditions Letter, if required.

TQA personnel are to identify and document on QAR forms project benchmarks and/or stages of interior removal and restoration activities completion. Interior removal and restoration activity milestones are to include, but are not limited to, determination of the design-build plan, set-up/containment, initiation of removal activities, completion of bulk removal, completion of detailing and encapsulant application, blocking, assurance of ventilation, confirmation sampling, insulation installation and interior cleanings.

Also to be included in QARs are changes to the site-specific work plan made as a result of changes to the final design, property owner requests, or the identification of conditions that result in delays. Inspections that omit a proposed removal action such as an

understructure or interior cleaning in an area previously identified with contamination are to be justified and documented as not requiring removal on the QAR.

Copies of the electronic photo and video files generated by TQA will be submitted to the PCT and the Record Center Manager.

9.6.9. Interior Final Removal Sketch

TQA personnel will document the property-specific remedies used during the removal (including removal areas, blocking, encapsulant, concrete, shotcrete, etc.) on the Interior Red-Line Sketch.

TQA will provide the estimated volume and thickness of all concrete/shotcrete remedies and record the volume dispensed from the concrete truck.

TQA personnel will document the remediation methods used during the interior removal including blocking, encapsulant, concrete, shotcrete, etc., in the QAR and with photographs. All removal, encapsulation, blocking, and sample IDs will be noted on the Interior Final Removal Sketch. This document will be submitted to the PCT along with the PCC. The PCT will submit the Interior Final Removal Sketch to the Design Team to complete a Final Interior Red-Line as discussed in Section 3.4.10.

9.6.10. Deviations from the Health and Safety Plan

If TQA personnel note any deviations from EM 385-1-1 or the appropriate APP by RC personnel, it will be brought to the attention of offending personnel immediately and documented if significant. If it is not corrected, TQA personnel are to notify a RC foreman. Non-responsiveness of RC personnel and significant safety infractions will be noted on the QAR and trigger immediate notification of the USACE on-sight representative. Work activities will be shut down by any Site personnel for safety reasons if warranted. Work shutdowns will be noted in the QAR. Work may not be reinstituted after a shutdown without documentation of the shutdown factors and their resolution and signed-off by the USACE on-site representative, the SHSO, the team foreman and any specific workers responsible for the unsafe site conditions which led to the shutdown. Safety issues will be discussed at the DCOM. Failure to comply with project safety standards by project personnel will result in project dismissal at the discretion of the USACE on-sight representative or the RC.

10.0 References

CDM. 2010a. Environmental Resource Specialist Plan Libby Asbestos Site, Operable Unit 4. May.

CDM. 2010b. Final Sampling and Analysis Plan, General Property Investigation, Libby Asbestos Site. April 23.

CDM. 2011a. Libby Asbestos Superfund Site Operable Unit 3 Soil Disposal Plan. June.

CDM. 2011b. Response Action Sampling and Analysis Plan. June.

CDM. 2011c. Fill Material Sampling Technical Memorandum, Libby Asbestos Site. June.

EPA. 2003. Draft Final Residential/Commercial Cleanup Action Level and Clearance Criteria Technical Memorandum, Libby Asbestos Project. December 15.

EPA. 2011. EPA Data Management Plan for tiie Libby Asbestos Site. May.

MDEQ. 2010. Removal Design Investigation Sampling and Analysis Plan. May.

MDEQ. 2011. Voluntary Recruitment Program Communication and Information Collection Strategy for Operable Unit 4 and Operable Unit 7 ofthe Libby Asbestos Site. January.

PRI. 2011. Accident and Prevention Plan. May.

USACE. 2008. EM 385-1-1 Safety and Health Requirements Manual. September

APPENDIX A

RAWP MODIFICATIONS

Record of Modification
to the
Response Action Work Plan (RAWP) Revision 3.0

Modification Number:
(six-digit date code – sequential number)

Date:

Section to be Modified:

Attach the referenced section to this record. Strike the language to be removed. Underline additions to existing language.

	Signature	Name	Date
EPA Approval:			
USACE Approval:			
TPIC Approval:			
RC Approval:			

APPENDIX B

SITE FORMS

Residential/Commercial Removal Closeout Records
Table of Contents

Address: _____ Property ID: AD-_____

Item in Folder	Source	Item Description	Document ID (if required)
		Section 1 – Resident	
___	CDM	Residential /Commercial Removal Closeout Table of Contents	
*___	PRI	Refusal of Remediation Activities Letter/Property Owner Refusal Form	SDMS#_____
___	PRI	Property Owner Deferment Form	
*___	PRI	Property Record of Communication Log	SDMS#_____
___	MULT	EPA Hotline or MTDEQ Records of Communication	
*___	CDM	Comfort Letters	SDMS#_____
___	MULT	Consent for Access to Property Form(s)	
___	PRI	Authorization for Superfund Temporary Relocation Assistance Form	
___	PRI	Reimbursement Claim for Superfund Temporary Relocation Assistance Form	
___	PRI	Receipts for Relocation Expenses	
___	PRI	Important Reminders Flyer	
___	PRI	Head of Household Hotel Form	
___	PRI	Landscape Material Replacement Claim Form/Plant Material Replacement Certificate	
___	PRI	Other Compensated Materials Claim Form	
___	PRI	Waiver for Non-Government Provided Housing	
___	PRI	Water Reimbursement Claim Form	
___	PRI	Sprinkler System Compensation Claim Form	
		Section 2 – Visual Documentation	
___	PRI	Property Survey (disc and map, if applicable)	
___	CDM	CDM Photos	
___	PRI	PRI Photos	
___	MULT	Removal Contractor Photos (if applicable)	
		Section 3 – Investigation	
___	CDM	Asbestos-containing Material Checklist	
___	CDM	Phase 1 Background Information Field Form	
___	CDM	Phase 2 Investigation Information	
*___	CDM	Contaminant Screening Study Information Field Forms (Primary IFF, Secondary IFF, Supplemental IFF)	SDMS#_____
___	CDM	Activity Based Sampling Documentation	
___	CDM	Pre-design Inspection Forms (EIC, SIIC, VVEF)	
___	CDM	General Property Investigation Forms (OIF, EPIF, IPIF, VVEF)	
___	CDM	Field Lognotes (for each applicable CDM investigation item above)	
___	TT	Troy Asbestos Property Evaluation Information	
___	CDM	ERS Initial Assessment Checklist	
___	_____	_____	
___	_____	_____	
		Section 4 – Removal Planning	
___	PRI	Removal and Restoration Design Checklist	
___	PRI	Interior Preparatory Removal Evaluation Form (include design-build plan)	
___	PRI	Exterior Preparatory Removal Evaluation Form (include marked-up plan)	
*___	MULT	Removal and Restoration Agreement or Work Plan (including all amendments, modifications and signitures from homeowner and USACE)	SDMS#_____
___	TT	Troy Removal Design Investigation Forms	
*___	PRI	Pre-existing Conditions Letter	SDMS#_____
*___	PRI	Removal Contractor Change Order Forms	SDMS#_____

Residential/Commercial Removal Closeout Records
Table of Contents

___	PRI	Hold Harmless Agreement	
___	PRI	No Compensation for Demolition Form	
*___	CDM	ERS Scope of Work	SDMS#_____
___	_____	_____	

Section 5 – Removal

___	CDM	Third Party Quality Assurance Reports (QARs)	
___	PRI	Waste Manifest Log	
___	MULT	Landscape Inventory Form	
___	PRI	U-Dig/Line Locate Documentation	
___	CDM	Field Lognotes (Removal)	
___	_____	_____	

Section 6 – Completion

___	PRI	Site Specific Quality Control Plan with Punchlist	
___	CDM	Property Closeout Checklist (PCC) (attach Draft PCC Redline)	
*___	PRI	Final PCC Redline Plan/Plans (i.e., contamination left in place map/maps)	SDMS#_____
*___	PRI	EPA Final Cleanup Letter/Removal and Restoration or ERS Completion Form	SDMS#_____
___	PRI	Removal Volumes Form	
___	PRI	HEPA Vacuum Receipt Forms	
___	CDM	Sample Results	
___	_____	_____	
___	_____	_____	

Documents Transmitted by:_____ Date: _____

Contents Verified by:_____ Date: _____

*Information Uploaded to OSC.net
SDMS# = Bar Code number = Document ID

US Army Corps
of Engineers
Omaha District

Removal Closeout
Property Folder Delivery Receipt

The following property folder is being transferred from Project Resources Inc. (PRI) to the United States Environmental Protection Agency / Montana Department of Environmental Quality Record Center in Libby / Troy, Montana.

Property ID:_____

Property Address:_____

_____
Delivering Representative's Printed Name

_____
Delivering Representative's Signature Date

_____
Recipient's Printed Name

_____
Recipient's Signature Date

US Army Corps of Engineers
Omaha District

Property Owner Refusal Form

This form is used document the refusal of proposed investigation or remediation activities at a property.

Property Information			
Property ID:		**Property Address:**	
Property Owners Name:		**Date:**	

Overview of Conversation

Write an overview of the conversation that took place with the property's owner. If the property owner supplied a written statement, attach it to the back of this form.

Authorization

_____

Contractor's Representative **Date**

US Army Corps of Engineers
Omaha District

Property Owner Deferment Form

This form is used to document the postponement of proposed investigation or remediation activities until it is convenient for the owner of the property.

Property Information			
Property ID:		**Property Address:**	
Property Owners Name:		**Date:**	

Overview of Conversation

Write an overview of the conversation that took place with the property's owner. If the property owner supplied a written statement, attach it to the back of this form.

Authorization

_____

Contractor's Representative **Date**

US Army Corps of Engineers
Omaha District

Record of Communication

This form is used to be document the conversations and interactions that take place with property owners.

Property Information			
Property ID:		Property Address:	

Communication Log*

Date:	Time:	RC Representative:	Property's Representative:	Comments:

*Use additional sheets as necessary.

Note to File:

This letter template is used to document an event to a property's permanent record.

Date:

Project:

PRI Project No:

Property ID:

Property Address:

Property Owner:

Overview

Describe the reason for documenting an event to the property's permanent record.

Signature: _____

Name: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 81595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

CONSENT FOR ACCESS TO PROPERTY

Owner Name: _____ Phone Home: _____
Location of Property: _____ Work: _____
_____ Cell: _____
Mailing Address: _____
_____
Relationship to Property (owner, tenant, etc.): _____

I, the undersigned, am the owner, their representative, or otherwise control the real property at the location described above. The Environmental Protection Agency has requested entry and access to my property pursuant to its response and enforcement responsibilities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfiind) as amended, 42 U.S.C 9601 et seq.

I consent to officers, employees, authorized representatives, and authorized contractors of the EPA entering and having continued access to the above referenced property for the following purposes:

1. Conducting field inspections and investigations of the property and structures on the property in support of removal activity planning;
2. Taking samples of air, soil, dust and/or bulk samples on the property;
3. Performing construction set-up (i.e. fencing, containment, equipment) to support the removal of contaminated material;
4. Using minimal amounts of heat, water (city sources only), and electricity without reimbursement while conducting investigation, removal and/or restoration activities;
5. Taking response actions, including, but not limited to: site stabilization, marking or temporarily covering exposed vermiculite, removal of hazardous materials and substances;
6. Completing restoration efforts once contaminated material has been removed to include repair of possible damage or property loss as a proven direct result of removal and restoration activities; and
7. Other such actions as the EPA Remedial Project Manager determines may be necessary to protect human health and the environment.

If relocation is necessary, I realize that I may not have access to my property during removal activities for health and safety reasons. Only in the event of an emergency will I be able to request items from my property.

This written permission is given by me voluntarily with knowledge of my right to refuse and without threats or promises of any kind. I certify that this Consent for Access is entered into voluntarily and constitutes an unconditional consent and grant of permission for access to the property by officers, employees, representatives and authorized contractors of the EPA at reasonable times.

Signature: _____ Date: _____

For office use only:
EPA Property ID: _____

PRI

PROJECT RESOURCES, Inc. (PRI)
AUTHORIZATION FOR SUPERFUND TEMPORARY RELOCATION ASSISTANCE

Property ID: _____

1. Name of Applicant/Head of Household:

2. Residence Address: Mailing Address:

3. Phone Number:

4.

Name of Persons Living in Dwelling	Relation to Head of Household (HOH)	Age (Children Only)

5. Type of temporary housing required: Government Approved Hotel

6. Location of Temporary Housing (pending availability):

7. Number of rooms required and names of persons in each room:

8. Will any pets need to be boarded at a kennel? If yes, how many and what type?

Signature of Applicant: _____ Date: _____

Authorizing Official: _____ Date: _____
Contractor's Representative

Any changes to the information provide above will require pre-approval from the Property Coordination Team. Cost incurred without pre-authorization could result in non-payment.

Libby Asbestos Superfund Site
REIMBURSEMENT CLAIM FOR SUPERFUND TEMPORARY RELOCATION ASSISTANCE FORM

This form is used document the per diem and relocation expenses that are compensated to residents that require relocation.

1. Property ID: _____

2. Property Address: _____ City: _____ State: MT Zip: _____

3. Name of Claimant/Head of Household: _____

4.

Name	Relation to HOH	Allowance*	in Temoorary Housing		Allowance
	HOH	$46.00	3	days	$138.00
		$34.50	2	days	$69.00
	Others over 12	$34.50	3	days	$103.50
		$25.88	2	days	$51.75
	Others Under 12	$23.00	3	days	$69.00
		$17.25	2	days	$34.50
				Total:	$465.75

5. Date checked into hotel: __-__-__ Date checked out of hotel: __-__-__
Note: First and last day of construction is reimbursed at Partial rate of 75%.

6. Date/time authorized by CIC to return home: __/__/__
** Note: If resident is authorized to return to their home before 3:00pm, EPA will not pay for hotel accommodations that evening. Arrangements have been made with the local hotels to facilitate late checkout.*

7. Pre-approved Kennel Costs: $

8. Other Pre-approved Costs: $

9. Total Costs Claimed: $

10. *I certify that this claim is true and correct to the best of my knowledge and belief for processing payment.*

Property Owner or Tenant Signature of Claimant:_____ Date: _____

11. *This voucher is approved.*

Contractor's Representative:_____ Date: _____

12. *PRI PCA approval and processed.*

PRI Representative:_____ Date: _____

13. *I certify I have received this reimbursement payment in full.*

Property Owner or Tenant Signature of Claimant:_____ Date: _____

Property ID: _____

HOH Name: _____

Address: _____

_____

Hotel Name: _____

	Names of people staying in room	Ages	# of Pets	Room Type
Room 1:				
Room 2:				
Additional Rooms:				

Signature of resident: _____ Date: _____

By signing this form, I agree that I will be staying in the government provided lodging in accordance with the above arrangements. Any increases in cost due to changes in the arrangements will be reimbursed directly to the hotel by me unless they are approved by a government representative. Residents also agree to abide by the rules of the motel/hotel and understand that failure to do so may result in their being asked to leave and may result in a reduction of their temporary relocation assistance. In the event that EPA seeks to terminate the temporary relocation assistance under this program, EPA will first provide written notice to the residents that explains the Agency's decision.

US Army Corps of Engineers
Omaha District

Libby Asbestos Superfund Site
Plant Material Replacement Certificate

This form is used document the compensation of plant materials removed during remediation activities, but not re-installed by the government or its contractors.

Property Owner _____

Property Address _____

Property Identification Number _____

Prior to removal actions being performed on the above referenced property, a vegetation inventory of plants within the removal zones was performed by a qualified contractor. The signed the Landscape Inventory is attached. The property owner will be hereby compensated for the removal of the inventoried vegetation.

Upon completion of the remediation at the above reference property, a voucher for the total amount of _____ will be issued in the form of a replacement certificate to be redeemed at _____.

The acceptance of the replacement certificate and the signature below is full acknowledgement by the property owner that this is a fair and reasonable compensation for plant materials removed during remediation activities, but not planted or installed by the govemment or its contractors.

Property Owner's Signature (Acceptance of Compensation Amount)	Date	Contractor's Signature	Date
PCA Approval	Date	Property Owner's Signature (Receipt of Voucher Certificate)	Date

US Army Corps of Engineers
Omaha District

Libby Asbestos Superfund Site
Other Compensated Materials Claim Form

This form is used document the compensation of materials removed during remediation activities, but not re-installed by the government or its contractors.

Property Owner _____

Property Address _____

Property Identification Number _____

Material Description	Unit Price	Quantity	Sub-Total
Total Replacement Value			$

Upon completion of the remediation at the above reference property, a voucher for the total amount of _____ will be issued in the form of a replacement certificate to be redeemed at _____.

The acceptance of the replacement certificate and the signature below is full acknowledgement by the property owner that this is a fair and reasonable compensation for materials removed during remediation activities, but not re-installed by the government or it's contractors.

_____ _____

Property Owner's Signature (Acceptance of Compensation Amount) Date

Contractor's Signature Date

_____ _____

PCA Approval Date

Property Owner's Signature (Receipt of Voucher Certificate) Date

US Army Corps of Engineers
Omaha District

Libby Asbestos Superfund Site
Water Reimbursement Claim Form

This form is used document the compensation of water usage for establishing the landscaping installed as part of the remediation activities that took place at a property.

Property Owner _____

Property Address _____

Property Identification Number _____

Reimbursement for water usage	Sub-Total
2011 Water Bill	$
- 2010 Water Bill	$
Total Reimbursement	$

Upon the receipt of documentation that verifies the difference of the water usage at the above reference property, the total amount of _____ will be issued in the form of a check payable to the property's owner.

The acceptance of the reimbursement and the signature below is full acknowledgement by the property owner that this is fair and reasonable compensation for watering expenses incurred for the month following the installation of landscaping performed as part of the remediation activities at the property.

Property Owner's Signature (Acceptance of Compensation Amount)	Date	Contractor's Signature	Date
PCA Approval	Date	Property Owner's Signature (Receipt of Voucher Certificate)	Date

US Army Corps of Engineers
Omaha District

Libby Asbestos Superfund Site
Sprinkler System Compensation Claim Form

This form is used document the compensation for sprinkler systems removed or damaged during remediation activities, but not re-installed by the government or its contractors.

Property Owner _____

Property Address _____

Property Identification Number AD- _____

Sprinkler system description	Estimate for repair
See attached sprinkler bid from _____	

During normal removal and/or restoration activities at the property listed above, the existing sprinkler system was damaged and/or removed. The property owner will be compensated the price of the repair/replacement of the system to restore it to previous working order. The repair/replacement value will be determined by a local licensed sprinkler system contractor. Compensation will be in the form of a check. The estimate from the sprinkler system contractor is attached.

The acceptance of the compensation check and the signature below is full acknowledgement by the property owner that they assume full responsibility and accept all liability associated with and for the repair/replacement and proper working order of the sprinkler system, and that this is a fair and reasonable compensation for the repair/replacement cost of materials damaged or removed during remediation activities.

Property Owner's Signature (Acceptance of Compensation Amount)	Date	Contractor's Signature	Date
PCA Approval	Date	Property Owner's Signature (Receipt of Compensation Check)	Date

DESIGN DAILY QUALITY CONTROL SUBMITTAL FORM	TO BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE NEXT DAY'S FIELD ACTIVITIES	
PROJECT: Libby Asbestos Superfund Site, Libby and Troy, MT	REPORT DATE: 11/15/10	PROJECT No. W9128F-04-D-0029 Task Order No. 027

CONTRACTOR ACTIVITIES / TASKS COMPLETED

PROPERTIES WHERE A SURVEY WAS REQUESTED

AD Number	GeoUnit	Property Address (E911)

SURVEYS RECEIVED

AD Number	GeoUnit	Property Address (E911)

SURVEYS PREPPED (GPI Sheets created)

AD Number	GeoUnit	PROPERTY ADDRESS (E911)

SURVEY BASE LAYERS EXPORTED TO GIS (To be Submitted to Data Management)

AD Number	GeoUnit	Property Address (E911)

SURVEY BASE LAYERS SUBMITTED TO DATA MANAGEMENT

AD Number	GeoUnit	Property Address (E911)

PRELIMINARY INVESTIGATION DATA RECEIVED (Visible and Analytical Map from Investigation)

AD Number	GeoUnit	Property Address (E911)

INVESTIGATION POINTS PLACED AND EXPORTED (To be Submitted to Data Management)

AD Number	GeoUnit	Property Address (E911)

INVESTIGATION POINTS SUBMITTED TO DATA MANAGEMENT

AD Number	GeoUnit	Property Address (E911)

DESIGN DAILY QUALITY CONTROL SUBMITTAL FORM	TO BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE NEXT DAY'S FIELD ACTIVITIES	
PROJECT: Libby Asbestos Superfund Site, Libby and Troy, MT	REPORT DATE: 11/15/10	PROJECT No. W9128F-04-D-0029 Task Order No. 027

INVESTIGATION DATA FOR DESIGN RECEIVED (Complete Investigation Packet including Analytical Results)

AD Number	GeoUnit	Property Address (E911)

PRELIMINARIES SUBMITTED FOR REVIEW (Designs Submitted to Investigation for QA Review)

AD Number	GeoUnit	Property Address (E911)

DESIGNS SUBMITTED TO PROPERTY COORDINATION FOR RRA MEETINGS & PROPERTY REMOVAL EVALUATION

AD Number	GeoUnit	PROPERTY ADDRESS (E911)	DESIGN TYPE (Int. / Ext. / Combo)	REMOVAL AREA (EXT/COMBO ONLY)

FINAL DESIGNS PREPARED FOR REMEDIATION CREWS

AD Number	GeoUnit	PROPERTY ADDRESS (E911)	DESIGN TYPE (Int. / Ext. / Combo)

RED LINE SKETCHES FINALIZED FOR REVIEW (POST REMOVAL)

AD Number	GeoUnit	PROPERTY ADDRESS (E911)	DESIGN TYPE (Int. / Ext. / Combo)	REMOVAL AREA (EXT/COMBO ONLY)

RED LINE SKETCHES REVISED & FINALIZED FOR EPA SUBMITTAL

AD Number	GeoUnit	PROPERTY ADDRESS (E911)	DESIGN TYPE (Int. / Ext. / Combo)	REMOVAL AREA (EXT/COMBO ONLY)

CLEARANCE SAMPLE COLLECTION POINTS EXPORTED TO GIS (To be Submitted to Data Management)

AD Number	GeoUnit	PROPERTY ADDRESS (E911)

CLEARANCE SAMPLE POINTS SUBMITTED TO DATA MANAGEMENT

AD Number	GeoUnit	Property Address (E911)

OTHER COMMENTS

DESIGN TEAM LEADER SIGNATURE _____ DATE 11/15/10 _____

REMOVAL AND RESTORATION PLAN
DESIGN CHECKLIST

TO BE SUBMITTED TO PROPERTY COORDINATION TEAM AS PART OF THE PROPERTY INFORMATION PACKET

PROPERTY OWNER:	PROPERTY ADDRESS:
GEOUNIT/AD NUMBER:	DATE SUBMITTED:

TITLE BLOCK INFORMATION (CHECK IF COMPLETED)

PROPERTY OWNER NAME	
PROPERTY ADDRESS (E911)	
GEO UNIT NUMBER	
AD NUMBER	
ASSOCIATED BD NUMBERS	
DATE DRAWN	
DRAWING BY	
CORRECT TITLE OF DRAWING	

DRAWING STANDARD REQUIREMENTS (CHECK IF COMPLETED)

DRAWING SCALE	
NORTH DIRECTIONAL ARROW	
SITE CONTROLS	
HATCHING SCALE UNIFORMITY	
ALPHABETIZED REMOVAL AREAS	
TABLE SHOWING REMOVAL VOLUMES AND AREAS	
REVIEWED BY	
INVESTIGATION PHOTOS (INTERIOR AND RESTORATION ONLY	
ADDITION OF REMOVAL FOREMEN EVALUATION COMMENTS	
ADDITION OF RRA MEETING COMMENTS	

DRAFTER'S SIGNATURE _____ DATE _____

US Army Corps of Engineers
Omaha District

Interior Preparatory Removal Evaluation Form

This form is to be completed before the start of a removal action at a property by a Removal Contractor (RC) foreman and a Construction Quality Control Inspector to evaluate site conditions and to assess crew & equipment utilization .

General Information			
Date:		**Property ID:**	
Property Address:			

Residential Relocation	
Resident Relocation Required?	**[ ] Yes [ ] No Comments:**

Removal Contractor Utilization		
Work Day	**Personnel Requirements** Number & Type of Crews Set-up / Removal / Restoration	**Equipment Requirements** Number/Type of Equipment
1		
2		
3		
4		
5		
6		
7		

Site Specific Conditions	
Access Issues	
Hazards	
Other Comments	

Special containment requirements?	**[ ] Yes [ ] No Comments:**
Anticipated electrical/plumbing issues that require a licensed professional?	**[ ] Yes [ ] No Comments:**
Areas that will require extensive demolition activities?	**[ ] Yes [ ] No Comments:**
Areas that share airspace with the removal area?	**[ ] Yes [ ] No Comments:**
Areas where blocking is to be constructed?	**[ ] Yes [ ] No Comments:**
Areas where encapsulation is to be applied?	**[ ] Yes [ ] No Comments:**
Areas where concrete capping will be required?	**[ ] Yes [ ] No Comments:**
Areas where pre-existing damage / conditions were observed?	**[ ] Yes [ ] No Comments:**
Resolution of pre-existing condition? (If applicable)	**[ ] Re-insulate [ ] Fix small problems and re-insulate [ ] Do not re-insulate; provide voucher for insulation**

Photo Documentation		
[ ] Photos of Pre Removal Features	**[ ] Photos of Access Issues**	**[ ] Photos of Pre-Existing Damage / Conditions**

_____

RC Foreman Signature **Date**

US Army Corps of Engineers
Omaha District

Exterior Preparatory Removal Evaluation Form

This form is to be completed before the start of a removal action at a property by a Removal Contractor (RC) foreman and a Construction Quality Control Inspector to evaluate site conditions and to assess crew & equipment utilization. (Attach exterior Red-Line property sketch and submit to the Design Team)

General Information			
Date:		**Property ID:**	
Property Address:			

Residential Relocation	
Resident Relocation Required?	**[ ] Yes [ ] No Comments:**

Removal Contractor Utilization		
Work Day	**Personnel Requirements** **Number & Type of Crews** **Set-up / Removal / Restoration**	**Equipment Requirements** **Number/Type of Equipment**
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Site Specific Conditions **(*If applicable, note features on the property's red-line sketch)**	
Access Issues*	
Hazards*	
Other Comments*	

Site Specific Conditions (cont.) (*If applicable, note features on the property's red-line sketch)	
Special containment requirements?*	[ ] Yes [ ] No Comments:
Problematic trees/shrubs that require special attention?*	[ ] Yes [ ] No Comments:
Anticipated electrical/plumbing issues that require a licensed professional?	[ ] Yes [ ] No Comments:
Areas that will require extensive demolition activities?*	[ ] Yes [ ] No Comments:
Are there any indications of pre-existing damage/conditions?*	[ ] Yes [ ] No Comments:

Photo Documentation		
[ ] Photos of Pre Removal Features	[ ] Photos of Access Issues	[ ] Photos of Pre-Existing Conditions

Guidelines
for
Exterior Red-Line Property Sketch

The following features are to be illustrated on the property's survey drawing by the Removal Contractor (RC) foreman or the Construction Quality Control Inspector at the time of the preparatory removal evaluation:

Exclusion Zones	Comments:
Equipment Staging Areas	Comments:
Placement of Containment Controls	Comments:
Pathways used for the transportation of materials	Comments:
Crew Parking Areas	Comments:

Additional Comments

RC Foreman Signature Date

Construction Quality Control Signature Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION S
1595 Wynkoop Street
Denver, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Removal and Restoration Agreement

The purpose of this form is to provide a mutual agreement to document the conditions of the removal and restoration activities that will take place at your property prior to the commencement of the proposed response actions.

This agreement will also serve as documentation for the purpose of assuring that removal and restoration activities are carried out to the satisfaction of the property owner and the United States Environmental Protection Agency (EPA), as documented within this agreement, for removals performed in Libby and Troy, Montana, for the Libby Asbestos Superfund Site.

EPA Property ID:
Property Address:
Property Owner:
Tenant residing at the address (if different than owner):
Phone Number:

Initials_____

General Policies for All Properties

All proposed residential and commercial removal and restoration activities will be conducted in accordance with the following General Policies:

1. Only government-authorized personnel will be permitted to perform work on site during the removal and restoration activities.
2. Removal start dates are subject to change based on crew and equipment availability that cause fluctuations within the construction schedule. Removal dates are not guaranteed, however we will try to accommodate scheduling requests.
   Acknowledgement (property owner's initials):_____
3. If relocation is required and the resident returns to their property without prior approval, their relocation agreement with the government will be nullified and per diem and hotel costs will not be paid.
   Acknowledgement (property owner's initials):_____
4. Any cost incurred in addition to pre-approved lodging arrangements will be reimbursed directly to the hotel by the resident. In the event the resident is asked to leave the accommodations for non-compliance with hotel rules, EPA will not provide alternate lodging. The resident will be responsible for procuring their own lodging for the duration of the removal and restoration activities.
5. Construction and restoration work is warranted for one year after the remediation is complete.
6. EPA representatives need to be notified of any future interior remodeling or exterior landscaping changes at the property.
   _____Yes, I have future interior remodeling plans.
   _____Yes, I have future exterior landscaping plans.
7. If the property owner chooses to relocate, change, or make improvements within areas affected by the remediation activities and those changes are not previously documented in this agreement, any change or damage that arise within those areas will become the liability and responsibility of the property's owner.
8. EPA may choose to leave contaminated materials in place if they are located in inaccessible areas or in areas not likely to be disturbed.

Exterior Removal Policies

1. The attached diagram(s) indicate areas that will be excavated along with depths of excavation, location of all known utilities, subsurface structures and landscaping features, and access location(s) to be used by the contractor.
2. Excavation boundaries are subject to change based on the presence of vermiculite. No excavation will occur beneath sidewalls of structures or concrete pads.
3. The landscaping contractor will restore plants and hydro seed a couple of days after the backfilling is complete to let the soils settle. It will then become the resident's responsibility to maintain these areas. The property owner is encouraged to refer to the

Initials_____

hydro seed care instructions provided during the removal and restoration agreement meeting.
Acknowledgement that the property owner received literature on the expectations and care taking of newly landscaped areas:_____

4. Plant materials removed from your property can be reinstalled by the government's contractor or landscape vouchers may be issued to a pre-approved vendor of your choice. Vouchers issued must be redeemed within one year of the issue date unless prior arrangements are made.
   Yes, I request a voucher for flowers/shrubs/trees removed from my property:_____
   Yes, I request a voucher for grass areas removed from my property:_____
5. If a sprinkler system exists at the property, the property owner will be required to provide proof that the system functions properly.
   Yes, I have a sprinkler system installed and it functions properly:_____
   EPA representative verifying that the sprinkler system is working properly:_____
6. If excavation is necessary around a propane system, the system will be shut off during the removal action. It is the responsibility of the property owner to ensure the system meets current building code prior to re-pressurization of the system.
   Acknowledgement (property owner's initials):_____
7. The property owner agrees that the EPA and its contractors will not be responsible for the death of a tree if death is caused by the bark beetle.
   Acknowledgement (property owner's initials):_____

Procedures for Soil Removal around Trees

1. All landscape such as trees and shrubs within designated removal zones that are less than 6" in diameter at breast height (DBH) will automatically be removed.
2. Trees within removal zones larger than 6" DBH will be left in place and "Procedures for Soil Removal around Trees" will be followed. The same procedures will be followed for edible fruit bearing trees greater than 4" DBH.
3. All compensation for removed trees will be provided in nursery stock.
4. Dead trees and stumps may be removed at the removal contractor's discretion, if they facilitate the removal action.
5. Excavations around trees will be at least 6" deep to provide for at least 6" of cover if contamination is left in place.
6. Trees that require removal will be marked with bright paint and will be cut down during site set-up, prior to excavation activities.
7. Excavation will begin with hand tools at the base of the tree and move outwards to locate the major roots. Major roots will be carefully exposed, taking precautions to avoid damaging the root mat. Roots that are severely damaged will be cut-off cleanly above the damaged area to minimize the amount of damaged surface area.
8. Once the major roots have been located and can be avoided, an excavator may be used for the removal of soils. Precautions will be taken to protect the tree trunk and branches from scrapes by the excavator and/or hand tools. This may include tying the trees back with straps to create access.

Initials_____

9. All roots will be backfilled as soon as possible using topsoil material. Backfilling will be up to the root collar. The Removal Contractor will keep topsoil on-site for this purpose when anticipating digging around trees.
10. Roots will be kept wet once they are exposed until backfilling is complete. If an area cannot be backfilled and the roots will remain uncovered overnight, the roots will be covered in soaked burlap until backfilling occurs. Backfilled areas around trees will be soaked multiple times a day during the removal. Any settling of the topsoil around the roots will be corrected by adding more topsoil.
11. In areas where observed vermiculite was the removal trigger, excavation will stop if vermiculite is not observed.
12. Vermiculite in the root mat beyond 6" will be documented, sampled, and left in place. Intrusive digging beyond 6" into the root system will not be performed.
13. If analytical results around tree roots indicate contamination of greater than 1% Libby Amphibole asbestos, the tree will be removed and the replacement of the tree will be with nursery stock.

Interior Removal Policies

1. interior design-build plans will be created on-site by EPA contractors and will adhere to the current construction specifications established for the Libby Asbestos Superfund Site.
2. The EPA and its contractors will not be responsible for problems arising from pre-existing conditions. Pre-existing conditions may be encountered before and during the removal process. Examples of these conditions include bad wiring, poor ventilation, or the mold in areas where removal and restoration activities are proposed. The property owner will be made aware of these conditions as they are discovered they will be allowed reasonable time to address these issues before insulation is installed.
3. If an interior removal is performed, some doors and windows may be left open as part of the removal activities. On-site security will be provided whenever the removal contractor is not working if a property cannot be locked-up.
4. Areas where removal activities are anticipated will be sealed off and contained prior to performing removal activities.
5. The presence of vermiculite in an attic area will result in the removal of all insulation that shares airspace with the vermiculite. Following the removal of vermiculite containing insulation from an attic they will receive a detailed cleaning and application of an encapsulating finish to adhere any loose particles to the surface areas.
6. If insulation is removed, it will be replaced with insulation as required per current building codes.
7. Items that are stored in an attic and share airspace with the vermiculite will be properly decontaminated. Items that are removed from interior spaces will be staged in a secured location until they can be returned; prior to confirmation sampling.
8. Dust samples that indicate the presence of vermiculite within an enclosed area of will result in an interior cleaning of the space where the sample was collected. The presence

Initials_____

of vermiculite leaking into an area of habitation will result in a spot cleaning of that area.

9. Gaps from areas of contamination to other areas such as utility corridors, living spaces, and the outside will be sealed utilizing caulk, spray foam, concrete or other appropriate materials.
10. Contamination in inaccessible areas may be left in place. A knee wall may be constructed around these areas to ensure that contamination does not migrate to remediated areas. In tight spaces such as eaves, foam and other barriers may be used to seal areas where it is not feasible to remove contamination.
11. Minor demolition work is often required to access contamination. If visible demolition work is necessary, approval from the property owner will be obtained specifically for the demolition.
12. Vermiculite or Libby Amphibole Contaminated Soils (LACS) in crawlspaces will be removed, covered, or isolated. Isolation will only be utilized in limited use areas that are rarely accessed. Isolated areas will still permit limited access. Plastic sheeting or concrete may be use to cover contaminated material. Shotcrete may be applied to contaminated areas that are not horizontal as a form of containment (i.e. walls with vermiculite building aggregates).
13. Under some circumstances it might be necessary to cut electrical service during removals to ensure the safety of our workers. Power companies require that the electrical service to a structure (power pole, conduit, & service panel) meet current building codes before they will restore electricity. If electrical service is cut it will become the responsibility of the property's owner to ensure the system meets current building codes for the structure before it gets re-energized.
14. An 18" x 18" access is the minimum dimension requirement for entry and exit to interiors. A second, smaller access is required for the negative air hose. Property owner approval will be obtained prior to enlarging existing access or creating a new access.
15. After removal activities, areas will be inspected and/or sampled to ensure that the contamination pathway was removed. The property owner may return only after the results indicate that the contamination has been removed to EPA Standards.

Interior Investigation Findings:

(List locations of proposed removal activities)

Attic [ ] Description:
Basement [ ] Description:
Crawlspace [ ] Description:
Interior Spaces [ ] Description:
Sheds, Barns, Garages, Pump Houses, or other Outbuildings[ ] Description:

If necessary, can we cut new access to interior spaces to remove contaminated materials? Y / N

Initials_____

Items to be removed by the Owner before the start of Site Set-Up activities*:

(Use additional sheets as necessary)

Item:
Item:
Item:

**The removal, storage, disposal and/or return of these items is the property owner's responsibility.*

Items to be removed by the contractor during remediation activities and <u>NOT REPLACED</u>

(Use additional sheets as necessary)

Item:
Item:
Item:

Items to be removed by the Contractor during remediation activities and <u>REPLACED</u>:

(Use additional sheets as necessary)

Item:
Item:
Item:

Initials_____

Relocation Meeting Notes

Relocation Required: Yes / No

Number of people age 12 & over: _____

Number of people age 11 & under: _____

Accommodations during relocation (pending availability):

Venture / Sandman / RV Park / Rental / Other_____

Number of:

Dogs: Small ___ / Large____ Kennel Required? Yes / No

Cats: _____ Kennel Required? Yes / No

Birds: _____ Kennel Required? Yes / No

Other _____ Kennel Required? Yes / No

When the electricity is shut off, what needs to stay on?

Refrigerator yes / no
Freezer yes / no location_____
Freezer yes / no location _____
Answering machine yes / no location_____
Fish Tank yes / no location_____
Sump Pump yes / no location_____
Other_____ location_____
Other _____ location_____

Where are the underground utilities that are sensitive to equipment loads?
(i.e. Septic tank, Leach Fields, Dry Wells)

If being relocated, are there any plants/animals/fish inside that need taken care of?

Initials_____

Additional Comments / Special Instructions

I acknowledge that I have reviewed this Removal and Restoration Agreement and the attached Exterior Remediation and Restoration Plan(s) plans for the property located at the address referenced on the first page. I, _____ (owner's name), hereby certify that the information provided by me in this agreement is to the best of knowledge true, accurate and complete. I agree to the removal and restoration of my property as outlined in this agreement.

_____

Owner's Signature Date

_____

Contractor's Representative Signature Date

If the owner or resident has questions or concerns, he or she should contact their Community Involvement Coordinator at _____
or the Property Coordination Office at **406-293-3690.**

Initials_____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
1595 Wynkoop Street
Denver, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Removal and Restoration Agreement

The purpose of this form is to provide a mutual agreement to document the conditions of the removal and restoration activities that will take place at the alley prior to the commencement of the proposed response actions. This agreement will also serve as documentation for the purpose of assuring that removal and restoration activities are carried out to the satisfaction of the property's owner and the United States Environmental Protection Agency (EPA), as documented within this agreement, for removals performed in Libby and Troy, Montana, for the Libby Asbestos Superfund Site.

EPA Property ID:
Alley Location:
Property Owner:

General Policies for All Properties

All proposed removal and restoration activities will be conducted in accordance with the following General Policies:

1. Only government-authorized personnel will be permitted to perform work on site during the removal and restoration activities.
2. Removal start dates are subject to change based on crew and equipment availability that cause fluctuations within the construction schedule.
3. EPA may choose to leave contaminated materials in place if they are located in inaccessible areas or in areas not likely to be disturbed.
4. The attached diagram(s) indicate areas that will be excavated along with depths of excavation, location of all known utilities, subsurface structures and landscaping features, and access location(s) to be used by the contractor.
5. Excavation boundaries are subject to change based on the presence of vermiculite. No excavation will occur beneath sidewalls or concrete pads.

Initials_____

Background Information

The alley referenced on the first page was investigated per sampling protocols for the Libby Asbestos Superfund Site and visible vermiculite or Libby Amphibole was identified. This alley is currently used by properties in the surrounding area that are scheduled for removal activities and in order to reduce the possibility of re-contaminating these properties, the alley will require remediation.

Summary of Activities

Work to be performed as part of this document will consist of remediation and restoration of the city alley. The alley may be remediated in whole or in part as necessary to reduce the exposure to Libby Amphibole. This activity may include excavation to a depth of 12-inches below current grade on the alley road surface or greater as needed in the adjacent drainage cut.

Acknowledgement

I acknowledge that I have reviewed this Removal and Restoration Agreement and the attached Exterior Remediation and Restoration Plan(s) plans for the alley located at the address referenced on the first page.

_____

Owner's Representative Signature Date

_____

Contractor's Representative Signature Date

Initials_____

US Army Corps
of Engineers
Omaha District

XX/XX/20XX

NAME
ADDRESS
CITY, Montana XXXXX

Subject: Pre-existing Conditions at ADDRESS, CITY, Montana

Dear NAME,

As you are aware, an Environmental Protection Agency (EPA) contractor is currently performing removal activities at the above referenced property.

During inspection and/or removal activities, the pre-inspection team observed and documented the pre-existing condition of note any and all pre-existing conditions of damage or disrepair. Include photos of pre-existing conditions.

The purpose of this letter is to bring our findings to your attention, and to inform you that EPA and EPA contractors will not be held liable for pre-existing conditions on your property.

If you have any questions, please call the Property Coordination Team at (406)293-3690.

Sincerely,

Author
Title

For office use only:

cc: Property File
EPA Information Center

EPA Property ID: _____

US Army Corps of Engineers
Omaha District

Change Order Form

This form is used document significant modifications to the originally proposed remediation activities at a property.

Property ID:_____

Property Address:_____

Home Owner:_____

Description of Change to Remediation Plan:

_____

Property Owner Signature Date

_____

USACE Representative Signature Date

US Army Corps of Engineers
Omaha District

Hold Harmless Agreement

This form is used document the indemnification of liabilities resulting from performing remediation activities at a property.

Property ID:_____

Property Address:_____

Property Owner:_____

This Hold Harmless and indemnification agreement is entered into by and between _____ hereinafter "Promisor", and USACE and its contractors hereinafter "Promisee", on this _____ day of_____, 20___.

The Promisee desires to perform remediation and restoration activities under the Army Corp's of Engineers, Omaha District, contract number: W9128F-04-D-0029 task order: 0027 for the Unites States Environmental Protection Agency in the Libby Asbestos Superfund Site, Libby, Montana. The intent of this agreement is to indemnify the Promisee from any claims, actions, and judgments, including all costs of defense and attorney fees arising from and related to the response action described in the section below that will take place at the Promisor's property listed above.

Description of Response Action Complication:

_____

_____

_____

_____

_____
Promisee Signature Date

_____
Promisor Signature Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8EPR

Month Day, Year

Owner's Full Name
Mailing address
City, MT Zip

Dear Proper Salutation Last Name,

Your property, located at Property Address, City, Montana is scheduled for demolition activities. These activities are being done as part of the EPA cleanup in Libby, Montana. The investigation data EPA has collected from your property indicates that it is highly contaminated with Libby amphibole asbestos. It is slated for demolition because its current condition is such that it is physically unsafe to remove the Libby amphibole asbestos from the structure while leaving it intact. You have indicated that because of the general structural instability of the residence, it would be beneficial for you to have it demolished and it would be beneficial for all parties involved to have the home demolished at no cost to you. Additionally, no salvaging of materials from the structure will be allowed because the Government has determined that it is unsafe and that there is no value to the current building materials.

In order for EPA to proceed with the demolition of the structure, you must certify that no person or institution holds any kind of loan, mortgage, note or other instrument which identifies the structure being demolished as collateral and that no other person or institution holds equity in the structure. By signing below, you so certify.

As we have discussed previously, you have agreed that because of the condition of the structure on your property you are not expecting the Government to replace nor provide you compensation for the demolished structure. You also agree that you will not make any claims against and hold harmless the EPA or the U.S. government for actual replacement or compensation of the demolished structure or any personal items you leave in the structure. By signing below, you acknowledge this agreement that no compensation will be issued to you for the demolition of the structure.

If you have any questions, please contact me at the EPA Information Center at 406-293-6194.

Sincerely,

_____ _____

Michael A. Cirian P.E.
EPA On Site RPM

Owner's name

For office use only:

cc: **Property File**
EPA Information Center

EPA Property ID: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8EPR

Month Day, Year

Owner's Full Name
Mailing address
City, MT Zip

Dear Proper Salutation Last Name,

The structure on your property, located at Property Address, City, Montana is scheduled for demolition activities. These activities are being done as part of the EPA cleanup in Libby, Montana. The investigation data EPA has collected from your property indicates that it is highly contaminated with Libby amphibole asbestos. It is slated for demolition because its current condition is such that it is physically unsafe to reruove the Libby amphibole asbestos from the structure while leaving it intact. You have indicated that because of the general structural instability of the structure, it would be beneficial for you to have it demolished and it would be beneficial for all parties involved to have it demolished at no cost to you. Additionally, no salvaging of ruaterials from the structure will be allowed because the Goveruruent has determined that it is unsafe and that there is no value to the current building ruaterials.

In order for EPA to proceed with the demolition of the structure, you must certify that no person or institution holds any kind of loan, mortgage, note or other instrument which identifies the structure being demolished as collateral and that no other person or institution holds equity in the structure. By signing below, you so certify.

As we have discussed previously, you have agreed that because of the condition of the structure on your property you are not expecting the Goveruruent to replace nor provide you compensation for the deruolished structure. You also agree that you will not make any claims against and hold harruless the EPA or the U.S. goveruruent for actual replacement or compensation of the demolished structure or any personal items you leave in the structure. By signing below, you acknowledge this agreement that no compensation will be issued to you for the demolition of the structure.

If you have any questions, please contact me at the EPA Information Center at 406-293-6194.

Sincerely,

_____ _____

Michael A. Cirian P.E.
EPA On Site RPM

Owner's name

For office use only:

cc: **Property File**
EPA Information Center

EPA Property ID: _____

THIRD PARTY QUALITY ASSURANCE REPORT (QAR) DAILY LOG OF CONSTRUCTION ACTIVITIES	TO BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE NEXT DAY'S WORK	
PROJECT: Libby Asbestos Site, Libby, MT	PROPERTY ADDRESS:	
	GEOUNIT	
	PROPERTY ID:	
THIRD PARTY INDEPENDENT CONTRACTOR: CDM Federal Programs Corporation		
	CONTRACT NUMBER:	W912DQ-08-D-0018 DK01 USACE Task Order No. DK01
REMOVAL CONTRACTOR: HFS/Project Resources, Inc.	Weather AM:	
	Weather PM:	

GUIDANCE DOCUMENT GOVERNING REMOVAL:

ACTIVITY	PERCENT COMPLETE AT END OF DAY	SAMPLES COLLECTED
Staging and Pre-Construction Set-Up		Interior Clearance BD# :
Exterior Removal		
Expansion of Removal Area		Exterior Clearance
Exterior Clearance		
Exterior Backfill		Personnel Air Monitoring
Exterior Restoration		
Interior Design-Build BD#:		Perimeter Air Monitoring
Interior Containment BD#:		
Interior Bulk Removal BD#:		Clean Room Sampling
Interior Detail Cleaning BD#:		
Interior Encapsulation BD#:		
Interior Blocking BD#:		
Interior Spot Cleaning BD#:		
Interior Clearance BD#::		
Interior Restoration BD#:		
Interior Capping BD#:		(CONCRETE / POLY?)

SAFETY: (Include Observances and any Infractions of Approved Safety Plan (i.e., PPE), Safety Manual or Instructions from Government Personnel. Specify Corrective Action Taken.)

COMMENTS PERTAINING TO CONTRACTOR'S ACTIVITIES
Note Times With Each Comment
(Results of QA Inspections / Tests / Deficiencies Observed / Actions Taken / Corrective Actions Taken by the Contractor / Disagreements with Contractor / Verbal Instructions to Contractors (Include Personnel) / Direction from Government Personnel)

Interior Activities

THIRD PARTY QUALITY ASSURANCE REPORT (QAR) DAILY LOG OF CONSTRUCTION ACTIVITIES	TO BE SUBMITTED PRIOR TO THE COMMENCEMENT OF THE NEXT DAY'S WORK	
PROJECT: Libby Asbestos Site, Libby, MT	PROPERTY ADDRESS: GEOUNIT PROPERTY ID:	
THIRD PARTY INDEPEDNENT CONTRACTOR: CDM Federal Programs Corporation	CONTRACT NUMBER:	W912DQ-08-D-0018 DK01 USACE Task Order No. DK01

COMMENTS PERTAINING TO CONTRACTOR'S ACTIVITIES CONT.

Excavation /Restoration Activities

Are Correct Wetting and Tarping Procedures Being Utilized? YES () NO ( )

Have Situations Developed at the Site Which Might Lead to Significant Deviations from the Removal Design?

Change Order Form Signed by Property's Owner? YES ( ) NO ( )

Information on Causes for Delay and Extent of Delays (i.e. Weather, Equipment Inoperability, etc.)

ITEMS DAMAGED DURING CONSTRUCTION ACTIVITIES: (Photo Document and Include any Corrective Actions Taken.)

DELIVERABLES SUBMITTED TO PRI? YES ( ) NO ( )	LIST DELIVERABLES:

REMARKS: (Include Visitors to Project Site and any Other Miscellaneous Comments)

INSPECTOR'S SIGNATURE	PRINTED NAME	DATE

LIBBY ASBESTOS SUPERFUND SITE
ASBESTOS WASTE SHIPMENT RECORD FORM

GENERATOR

1. Work Site Name and E911 Address	Property ID	Owner's Telephone Number
	AD	(406) 293-6194
2. Operator's Name and Address		**Operator's Telephone Number**
Project Resources Inc. 60 Port Blvd. Libby, MT 59923		(406) 293-3690
3. Waste Disposal Site (WDS) Name & Location		**WDS Telephone Number**
Lincoln County Landfill Libby, MT 59923		(406) 293-8659
4. Name and Address of Responsible Agency		
EPA 108 E. 9th St. Libby, MT 59923		
5. Description of Material	**6. Container: No. Type**	**7. Total Quantity (yd^3)**
Asbestos Containing Material	/	
8. Special Handling Instructions and Additional Information		
TORN BAGS WILL NO BE ACCEPTED FOR TRANSPORT ; 10 Bags ≈ 1 Cubic Yard		

9. OPERATORS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name	Signature	Month Day Year

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Material)		
Printed Name and Company Address	**Signature**	**Month Day Year**
Name: _____ 32000 US HWY 2, Libby, MT 59923		
11. Transporter 2 (Acknowledgement of receipt of materials		
Printed Name	**Signature**	**Month Day Year**

SITE

12. Discrepancy Indictation Space		
13. Waste Disposal Site Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed Name	**Signature**	**Month Day Year**

LIBBY ASBESTOS SUPERFUND SITE
ASBESTOS WASTE SHIPMENT RECORD FORM

GENERATOR

1. Work Site Name and E911 Address	Property ID	Owner's Telephone Number
	AD	(406) 293-6194
2. Operator's Name and Address		**Operator's Telephone Number**
Project Resources Inc. 60 Port Blvd. Libby, MT 59923		(406) 293-3690
3. Waste Disposal Site (WDS) Name & Location		**WDS Telephone Number**
Rainy Creek Mine Libby, MT 59923		(406) 293-3690
4. Name and Address of Responsible Agency		
EPA 108 E. 9th St. Libby, MT 59923		
5. Description of Material	**6. Container: No. Type**	**7. Total Quantity (yd^3)**
Asbestos Containing Soil	/	
8. Special Handling Instructions and Additional Information		

9. OPERATORS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name	Signature	Month Day Year

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Material)		
Printed Name **Address**	**Signature**	**Month Day Year**
Name: _____ 32000 US HWY 2, Libby, MT 59923		
11. Transporter 2 (Acknowledgement of receipt of materials		
Printed Name	**Signature**	**Month Day Year**

SITE

12. Discrepancy Indictation Space		
13. Waste Disposal Site Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed Name	**Signature**	**Month Day Year**

LIBBY ASBESTOS SUPERFUND SITE
ASBESTOS WASTE SHIPMENT RECORD FORM

GENERATOR

1. Work Site Name and E911 Address	Property ID	Owner's Telephone Number
	AD	(406) 293-6194
2. Operator's Name and Address		**Operator's Telephone Number**
Project Resources Inc. 60 Port Blvd. Libby, MT 59923		(406) 293-3690
3. Waste Disposal Site (WDS) Name & Location		**WDS Telephone Number**
Rainy Creek Mine Libby, MT 59923		(406) 293-3690
4. Name and Address of Responsible Agency		
EPA 108 E. 9th St. Libby, MT 59923		
5. Description of Material	**6. Container: No. Type**	**7. Total Quantity (yd^3)**
Asbestos Containing Soil	/	
8. Special Handling Instructions and Additional Information		

9. OPERATORS CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and government regulations.

Printed/Typed Name	Signature	Month Day Year

TRANSPORTER

10. Transporter 1 (Acknowledgement of Receipt of Material)		
Printed Name **Address**	**Signature**	**Month Day Year**
Name: _____ 32000 US HWY 2, Libby, MT 59923		
11. Transporter 2 (Acknowledgement of receipt of materials		
Printed Name	**Signature**	**Month Day Year**

SITE

12. Discrepancy Indictation Space		
13. Waste Disposal Site Owner or Operator: Certification of receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed Name	**Signature**	**Month Day Year**

US Army Corps of Engineers
Omaha District

Landscape Inventory Form

This form is to be completed before the start of a removal action at a property by the landscape contractor to assess plant materials that will be compensated.

Property Information			
Property ID:		Property Address:	
Property Owner's Name:		Inventory Date:	

Ground Cover Inventory

Quantity	Plant Description	Unit Price	Subtotal
		Total:	

(Use additional forms as necessary)

_____

Property Representative Signature

_____

Contractor Signature

HFS PRI
Rapid

Punch-List Tracking Sheet:

This form is used to document restoration issues that arise during the removal and restoration that must be address prior to the final inspection. This form will be kept with the official Quality Control Site Plan.

Start Date:_____ **Complete Date:**_____

Property ID:_____

Property Address:_____

Items Requiring Attention: (CQC and TQA will initial when the item has been addressed)	**CQC** (complete)	**TQA** (complete)

CQC Complete:_____ **TQA Complete:**_____

HFS PRI
Rapid

Property Status Tracking

Milestones	Date	Time
Set-up Date:		
Preliminary Excavation Inspection:		
Excavation Start:		
Final Excavation Inspection:		
Preliminary Restoration Inspection:		
Restoration Start Date:		
Final Inspection Date:		

CQC:_____ **Signed:**_____

TQA:_____ **Signed:**_____

CQC Plans Chain-of-Custody

From:_____ To:_____ Date/Time:_____

Signed:_____ _____

From:_____ To:_____ Date/Time:_____

Signed:_____ _____

From:_____ To:_____ Date/Time:_____

Signed:_____ _____

Punch-List Request:

This letter is used to document restoration issues that residents request to be performed after a removal has been completed at a property.

Date:_____

Property Id:_____

Property Address:_____

Property Owner:_____

Please provide a summary of items that require attention:

_____

Contactor Signature (when completed) Date

Libby Asbestos Project
Property Closeout Checklist (v7)

Instructions:

Attach Redline Drawing indicating all areas inspected and sampled during response activities and any contaminated soil remaining.

Indicate location of any marker barrier placed at excavation limits.

Notify Property Operations Coordinator of any property boundary issues (e.g., excavation encroachment) via email.

Provide completed form and property folder to QC Reviewer

Property ID (AD#):			
Address:			
Location ID(s) of buildings with response activity:			
Assessment Date (Form Date):			
Surveyor(s)/Company:			
Removal Contractor: PRI-HFS			
Type of response (circle one): Planned removal ERS Quick Response Partial planned removal: interior completed, exterior to be completed later Partial planned removal: exterior completed, interior to be completed later			
Type of response activity (circle all that apply): *Indoor/Buildings* Attic insulation Interior cleaning Interior soil Vermiculite-containing building material (VCBM) interior demolition Building demolition *Outdoor (includes soil from non-enclosed buildings)* Exterior soil			
Estimated quantity in cubic yards of vermiculite insulation removed: _____			
Interior removal start date: _____ Interior removal finish date: _____ Interior restoration start date: _____ Interior restoration finish date: _____ Exterior removal start date: _____ Exterior removal finish date: _____ Exterior restoration start date: _____ Exterior restoration finish date: _____			
Does soil containing LA remain at depth (circle one)? If indoor, briefly describe location: _____ If outdoor, mark sampled area(s) on map.	Y	N	Unknown
Does soil containing LA remain at ground surface (circle one)? If indoor, briefly describe location: _____ If outdoor, mark sampled area(s) on map.	Y	N	Unknown
Does soil containing visible vermiculite remain at depth (circle one)? If indoor, briefly describe location: _____ If outdoor, mark inspection points (e.g., "L", "M") on map.	Y	N	Unknown
Does soil containing visible vermiculite remain at ground surface (circle one)? If indoor, briefly describe location: _____ If outdoor, mark inspection points (e.g., "L", "M") on map.	Y	N	Unknown
If any "Unknown" responses circled above, please explain (e.g., no visual inspection-inaccessible, no sample collected, further investigation needed): _____			
Does vermiculite insulation remain in any indoor areas (circle one)? Describe location(s) with remaining vermiculite insulation. Also note location of remaining VCBM. _____	Y	N	Unknown

PCC QC Reviewer: _____	Data Entered by: _____

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8EPR

enter_date

FirstName LastName
Address
Libby, MT 59923

RE: EPA Cleanup at Address, Libby, Montana 59923
Property ID: _____

The U.S. Environmental Protection Agency (EPA) has completed a cleanup under emergency response authority at the property referenced above. The cleanup was conducted pursuant to the Action Memorandum Amendment dated May 9, 2002 for the Libby Asbestos Site. A copy of the Removal and Restoration Completion Form for this property is enclosed for reference and details the specific actions that were taken. EPA has issued a No Action Assurance which addresses any liability for the costs of the cleanups performed at homes in Libby. That document is available at the EPA Information Center.

Visual inspections were conducted and confirmation samples were collected after the cleanup to ensure that cleanup standards were achieved. Sampling typically includes interior air samples of the buildings and/or samples of outdoor soils in areas of concern. Analysis of samples for this property shows that the property meets EPA's current cleanup goals for Libby amphibole asbestos contamination set forth in EPA's Draft Final Cleanup Action Level and Clearance Criteria Technical Memorandum, with amendment, (EPA 2003) for the Libby Asbestos Site. EPA's work at your property has significantly reduced any potential sources of exposure that you or others at that property may have had.

In many circumstances vermiculite insulation or Libby asbestos-containing soil or materials was removed. EPA may have chosen to leave these materials in place if they were located in inaccessible areas and not likely to be disturbed. These areas typically include spaces within walls, below carpets, outdoor soils below hard, improved surfaces such as foundations, or outdoor soils deeper than twelve to eighteen inches. In most cases, with the exception of walls, EPA did not inspect or sample in such areas. If you plan to disturb, or accidentally encounter, vermiculite or Libby asbestos containing materials, you should read and follow EPA guidance. This guidance can be obtained at the EPA Information Center at 108 E. 9th Street in Libby. A database documenting areas where contamination was left in place is maintained by EPA.

Very low, often immeasurable, levels of Libby asbestos may remain in soil, indoor dust, fabrics, upholstery, and carpets. Residents can further protect themselves by taking simple precautions found in EPA guidance, including the use of HEPA-filter equipped vacuum cleaners. EPA will provide each property owner a HEPA vacuum upon completion of cleanup.

EPA's investigations and cleanup addressed amphibole asbestos that is related to the former Libby vermiculite mine and did not address other types of asbestos. There are several potential asbestos-containing materials commonly found in older homes across the country. This letter makes no statement or inferences regarding these materials.

At this time, EPA considers the specific response actions taken at this property complete and does not anticipate that additional cleanup measures will be necessary for those areas that have been addressed. However, EPA continues to work on a Baseline Risk Assessment (BRA) that will provide information conceming the health risks posed to residents in Libby, both before and after cleanup actions have been taken. EPA has not yet set final cleanup levels for the Libby Asbestos Site. This will occur when EPA completes a final Record of Decision. The Record of Decision may present a different approach to cleanup at the Libby Asbestos Site. If this results in a need for additional sampling or cleanup at this property, the property owner will be contacted.

EPA appreciates your assistance with our work. Please keep this letter with your important papers for future reference. A copy should be passed to the new property owner if the property is sold. If you have any questions, please contact the EPA Information Center at (406) 293-6194 or the Lincoln County Department of Environmental Health at (406) 293-7781.

Sincerely,

Michael A. Cirian P.E.
EPA On Site RPM

Removal and Restoration Completion Form for Response Action at

Name Property

Address

City, Montana

RE: EPA Property ID: _____

Between MONTH DAY, 2009 and MONTH DAY, 2009, removal and restoration activities took place at Address (last name property). Activities were conducted in accordance with the Contract Documents. This Removal and Restoration Completion Form summarizes cleanup activities that took place at the property.

1.0 Removal and Restoration Activities

1.1 Exterior

Based on visual inspections and soil sample results, soil removal was not warranted at this property.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) cleanup goals.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) cleanup goals. However, contaminated soil remains at a depth of xx inches below ground surface in the yard/garden/flowerbeds/former garden/driveway. This area was/These areas were covered with materials in order to minimize the potential for human exposure. EPA strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this

area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) cleanup goals. However, contaminated soil remains at depth in the areas indicated on the attached map. This area was/These areas were covered with materials in order to minimize the potential for human exposure. EPA strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

1.2 Interior

Based on visual inspection, interior remediation was not warranted at this property.

OR

Vermiculite-containing Insulation Removal

Vermiculite-containing insulation was removed from the attic space. Following the removal, the attic space was inspected and air clearance samples were collected to confirm the area was cleaned to standards established by the U.S. Environmental Protection Agency (EPA). The removed insulation was replaced unless otherwise stated in the Contract Documents.

OR

Vermiculite-containing insulation was not observed in any buildings at the property; therefore, insulation removal was not warranted.

AND/OR

Based on visual inspections and soil sample results, removal was not warranted in the understructure.

OR

Based on infrequent use, as well as visual inspections and soil sample results, removal was not warranted in the understructure. However, contaminated material remains in the understructure. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. If the frequency of access to this area changes, the property owner is encouraged to contact EPA.

OR

Contaminated material was covered in the understructure in accordance with the Contract Documents. The covering was installed in order to minimize the potential for human exposure. The U.S. Environmental Protection Agency (EPA) strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet.

Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Contaminated material was removed from the understructure. All penetrations into this area were sealed in accordance with the Contract Documents.

Interior Cleaning

Based on visual inspection, an interior cleaning was not warranted at this property.

OR

Based on visual inspection, an interior cleaning was conducted in the house/basement/ground floor/second floor/garage/detached garage/shed. Following the interior cleaning, the interior space was inspected and air clearance samples were collected to confirm the area was/areas were cleaned to standards established by the U.S. Environmental Protection Agency (EPA).

The detached garage/pumphouse/shed has/have been inspected to confirm that removal activities were not warranted in this structure/these structures.

Vermiculite-containing Wall Insulation

Vermiculite-containing insulation remains in the interior walls/exterior walls of the residence. Existing openings in these areas were sealed. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to access this area/these areas in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. These publications are also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Prior to removal activities, the property owner informed the U.S. Environmental Protection Agency (EPA) or an EPA representative that they planned to conduct remodeling activities involving the walls of the residence. As a result, inside wall materials such as paneling, drywall, etc., as well as vermiculite-containing wall insulation, were removed from this area and not replaced pending property owner improvements/replaced in accordance with the Contract Documents.

Vermiculite-containing Building Material

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The material was sealed with paint or an encapsulant (or equivalent). The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA

Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The vermiculite-containing building material was removed and disposed of in accordance with the Contract Documents.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a non-friable state. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

I acknowledge that I have received a copy of the Removal and Restoration Agreement for the property. Removal and restoration activities were discussed and agreed to prior to cleanup activities were met and that the landscape was replaced according to agreed upon terms. I have also received a high efficiency particulate air vacuum and training on its correct use. The vacuum shall remain at the property even if the property is sold.

_____ _____

Name Date

Quality Control Review Sheet

Contract Name: Libby Asbestos Project

Client: USACE, Omaha District

Project Number: 213027.01

Document Type: Removal and Restoration Completion Form

Property ID:
Property Owner: NAME
Property Address: ADDRESS, CITY, Montana 599XX

Document Author

Signature: _____ _____
Kim Fox Date

Technical Reviewer

Signature: _____ _____
Mike Vasquez Date

QA Reviewer – *only required if contamination remains at property*

Signature: _____ _____
Erico Romero Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8EPR

enter_date

FirstName LastName
Address
Libby, MT 59923

RE: EPA Removal Actions at Address, Troy, Montana 59935
Property ID: _____

The U.S. Environmental Protection Agency (EPA) has completed removal actions for Libby amphibole asbestos contamination under emergency response authority at the property referenced above. EPA conducts these removal actions pursuant to the Action Memorandum Amendment dated May 9, 2002 for the Libby Asbestos Site. A copy of the Removal and Restoration Completion Form for this property is enclosed for reference and details the specific actions that were taken. EPA has issued a No Action Assurance which addresses any liability for the costs of the cleanups performed at homes in and around Troy. That document is available at the DEQ Troy Information Center, 303 N. Third St., Troy.

EPA conducted visual inspections and collected confirmation samples after the removal actions were complete to ensure that current standards were achieved. Sampling typically included interior air samples of the buildings and/or samples of outdoor soils in areas of concern. Analysis of samples for this property shows that the property meets EPA's current removal goals for Libby amphibole asbestos contamination set forth in EPA's Action Level and Clearance Criteria Technical Memorandum (December 15, 2003), as amended, for the Libby Asbestos Site. EPA's work at your property reduces any potential sources of exposure that you or others at that property may have had.

In many circumstances EPA removed vermiculite insulation or Libby asbestos-containing soil or materials. EPA may have chosen to leave these materials in place if they were located in inaccessible areas and not likely to be disturbed. These areas typically include spaces within walls, below carpets, outdoor soils below hard, improved surfaces such as foundations, or outdoor soils deeper than twelve to eighteen inches. In most cases, with the exception of walls, EPA did not inspect or sample in such areas. If you plan to disturb, or accidentally encounter, vermiculite or Libby asbestos containing materials, you should read and follow EPA guidance. A copy of this guidance is enclosed for your convenience. Additional information or copies of the guidance can be obtained at the DEQ Troy Information Center. EPA maintains a database documenting areas where contamination was left in place.

Very low, often immeasurable, levels of Libby asbestos may remain in soil, indoor dust, fabrics, upholstery, and carpets. Residents can further protect themselves by taking simple precautions found in additional EPA guidance included in this packet. The use of HEPA-filter

equipped vacuum cleaners provides additional and continued protection. EPA will provide each property owner a HEPA vacuum upon completion of the removal actions.

EPA's investigations and removal actions addressed Libby amphibole asbestos that is related to the former Libby vermiculite mine and did not address other types of asbestos. There are several potential asbestos-containing materials commonly found in older homes across the country. This letter makes no statement or inferences regarding these materials. If you would like further information regarding other asbestos sources or methods of disposal, please contact the State of Montana's Asbestos Control Program at (406) 444-6762.

At this time, EPA considers the specific removal actions taken at this property complete based on current criteria and does not anticipate that additional measures will be necessary for those areas that have been addressed. However, EPA continues to work on a Baseline Risk Assessment that will provide information concerning the health risks posed to residents in the Libby Asbestos Superfund site, both before and after removal and remedial response actions have been taken. EPA has not yet set final cleanup levels for the Libby Asbestos Site. This will occur when EPA completes a final Record of Decision. The Record of Decision may present a different approach to cleanup at the Libby Asbestos Site. If this results in a need for additional sampling or cleanup at this property, the property owner will be contacted.

EPA appreciates your assistance with our work. Please keep this letter with your important papers for future reference. A copy should be passed to the new property owner if the property is sold. If you have any questions, please contact the DEQ Troy Information Center at (406) 295-9238 or the Lincoln County Department of Environmental Health at (406) 293-7781.

Sincerely,

Michael A. Cirian P.E.
EPA On Site RPM

Removal and Restoration Completion Form for Response Action at

Name Property

Address

City, Montana

RE: EPA Property ID: _____

Between MONTH DAY, 2009 and MONTH DAY, 2009, removal and restoration activities took place at Address (last name property). Activities were conducted in accordance with the Contract Documents. This Removal and Restoration Completion Form summarizes removal activities that took place at the property.

1.0 Removal and Restoration Activities

1.1 Exterior

Based on visual inspections and soil sample results, soil removal was not warranted at this property.

OR

Based on available information, including visual inspections and soil sample results, and in accordance with current removal criteria, soil removal was not warranted at this property. However, soils with trace amounts of Libby amphibole may remain in the yard/garden/flowerbeds/former garden/driveway. At this time, these low levels of Libby amphibole do not warrant a removal action.

OR

Based on available information, including visual inspections and soil sample results, and in accordance with current removal criteria, soil removal was not warranted at this property. However, soils with visible vermiculite may remain in the yard/garden/flowerbeds/former garden/driveway. Available information suggests this material is not Libby vermiculite. Such information may include but is not limited to laboratory analytical results, visual observations and descriptions of the vermiculite by the field technicians, information provided by the property owner or resident, and overall property history and use.

OR

Based on available information, including visual inspections and soil sample results, and in accordance with current removal criteria, soil removal was not warranted at this property. However, soils with trace amounts of Libby amphibole may remain in the

yard/garden/flowerbeds/former garden/driveway. At this time, these low levels of contamination do not warrant a removal action. In order to minimize the potential for human exposure to Libby amphibole, the property owner is encouraged to refer to EPA's (*please include the name of the guidance*), when working in those areas. Also on your property, soils with visible vermiculite may remain in the yard/garden/flowerbeds/former garden/driveway. Available information suggests this material is not Libby vermiculite. Such information may include but is not limited to laboratory analytical results, visual observations and descriptions of the vermiculite by the field technicians, information provided by the property owner or resident, and overall property history and use.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) removal goals.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) removal goals. However, contaminated soil remains at depth in the areas indicated on the attached map. This area was/These areas were covered with materials in order to minimize the potential for human exposure. EPA strongly recommends that it be left alone and not disturbed.

1.2 Interior

Based on visual inspection, interior removal activities were not warranted at this property.

OR

Vermiculite-containing Insulation Removal

Vermiculite-containing insulation was removed from the attic space. Following the removal, the attic space was inspected and air clearance samples were collected to confirm the area was cleaned to standards established by the U.S. Environmental Protection Agency (EPA). The removed insulation was replaced unless otherwise stated in the Contract Documents.

OR

Vermiculite-containing insulation was not observed in any buildings at the property; therefore, insulation removal was not warranted.

AND/OR

Based on visual inspections and soil sample results, removal was not warranted in the understructure.

OR

Based on infrequent use, as well as visual inspections and soil sample results, removal was not warranted in the understructure. However, contaminated material remains in the understructure. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. If the frequency of access to this area changes, the property owner is encouraged to contact EPA.

OR

Contaminated material was covered in the understructure in accordance with the Contract Documents. The covering was installed in order to minimize the potential for human exposure. The U.S. Environmental Protection Agency (EPA) strongly recommends that it be left alone and not disturbed.

OR

Contaminated material was removed from the understructure. All penetrations into this area were sealed in accordance with the Contract Documents.

Interior Cleaning

Based on visual inspection, an interior cleaning was not warranted at this property.

OR

Based on visual inspection, an interior cleaning was conducted in the house/basement/ground floor/second floor/garage/detached garage/shed. Following the interior cleaning, the interior space was inspected and air clearance samples were collected to confirm the area was/areas were cleaned to standards established by the U.S. Environmental Protection Agency (EPA).

The detached garage/pumphouse/shed has/have been inspected to confirm that removal activities were not warranted in this structure/these structures.

Vermiculite-containing Wall Insulation

Vermiculite-containing insulation remains in the interior walls/exterior walls of the residence. Existing openings in these areas were sealed. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to access this area/these areas in the future (such as during renovation), the property owner is encouraged to contact the DEQ Troy Information Center located at 303 N. 3rd Street or (406) 295-9238 for assistance.

OR

Prior to removal activities, the property owner informed the U.S. Environmental Protection Agency (EPA) or an EPA representative that they planned to conduct remodeling activities involving the walls of the residence. As a result, inside wall materials such as paneling, drywall, etc., as well as vermiculite-containing wall insulation, were removed from this area

and not replaced pending property owner improvements/replaced in accordance with the Contract Documents.

Vermiculite-containing Building Material

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The material was sealed with paint or an encapsulant (or equivalent). The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to contact the DEQ Troy Information Center located at 303 N. 3rd Street or (406) 295-9238 for assistance.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The vermiculite-containing building material was removed and disposed of in accordance with the Contract Documents.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a non-friable state. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to contact the DEQ Troy Information Center located at 303 N. 3rd Street or (406) 295-9238 for assistance.

Leave this in if there is anything left in place: In order to minimize the potential for human exposure to Libby amphibole, the property owner is encouraged to refer to appropriate EPA guidance when working in any areas where contamination may exist. A copy of each of the following guidance documents are included herein:

- Bullet list all the guidance you give them in the post-complete packet
-

Leave this in all of the forms: Additional information about Libby amphibole and vermiculite is also available at the DEQ Troy Information Center located at 303 N. 3rd Street or online at http://www.epa.gov/region8/superfund/libby/inhome.html.

I acknowledge that I have received a copy of the Restoration Agreement for the property. Removal and restoration activities were discussed and agreed to prior to the start of the removal activities. I have also received a high efficiency particulate air vacuum and training on its correct use. The vacuum shall remain at the property even if the property is sold.

_____ _____

Name Date

Quality Control Review Sheet

Contract Name:	Libby Asbestos Project
Client:	USACE, Omaha District
Project Number:	213027.01
Document Type:	Removal and Restoration Completion Form

Property ID:
Property Owner: NAME
Property Address: ADDRESS, CITY, Montana 599XX

Document Author

Signature: _____ _____
Date

Technical Reviewer

Signature: _____ _____
Date

QA Reviewer – *only required if contamination remains at property*

Signature: _____ _____
Date

Removal and Restoration Completion Form For Quick Response Action at

Name Property

Address

City, Montana

RE: EPA Property ID: _____

Between MONTH DAY, 2009 and MONTH DAY, 2009, quick response removal and restoration activities took place at Address (last name property). This Removal and Restoration Completion Form summarizes cleanup activities that took place at the property.

1.0 Removal and Restoration Activities

1.1 Exterior

Based on visual inspections and soil sample results, soil removal was not warranted at this property.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) removal criteria.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) removal criteria. However, contaminated soil remains at a depth of xx inches below ground surface in the yard/garden/flowerbeds/former garden/driveway. This area was/These areas were covered with materials in order to minimize the potential for human exposure. EPA strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Soil was removed from the yard/garden/flowerbeds/former garden/driveway and restored in accordance with the Contract Documents. Confirmation soil samples were collected from this area/these areas to verify the contamination was removed to the depth required to meet current U.S. Environmental Protection Agency (EPA) cleanup goals. However, contaminated soil remains at depth in the areas indicated on the attached map. This area was/These areas were

covered with materials in order to minimize the potential for human exposure. EPA strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

1.2 Interior

Based on visual inspection, interior remediation was not warranted at this property.

OR

Vermiculite-containing Insulation Removal

Vermiculite-containing insulation was removed from the attic space. Following the removal, the attic space was inspected and air clearance samples were collected to confirm the area was cleaned to standards established by the U.S. Environmental Protection Agency (EPA). The removed insulation was replaced unless otherwise stated in the Contract Documents.

OR

Vermiculite-containing insulation was not observed in any buildings at the property; therefore, insulation removal was not warranted.

AND/OR

Based on visual inspections and soil sample results, removal was not warranted in the understructure.

OR

Based on infrequent use, as well as visual inspections and soil sample results, removal was not warranted in the understructure. However, contaminated material remains in the understructure. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. If the frequency of access to this area changes, the property owner is encouraged to contact EPA.

OR

Contaminated material was covered in the understructure in accordance with the Contract Documents. The covering was installed in order to minimize the potential for human exposure. The U.S. Environmental Protection Agency (EPA) strongly recommends that it be left alone and not disturbed. If the at-depth material is exposed or disturbed, the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Contaminated material was removed from the understructure. All penetrations into this area were sealed in accordance with the Contract Documents.

Interior Cleaning

Based on visual inspection, an interior cleaning was not warranted at this property.

OR

Based on visual inspection, an interior cleaning was conducted in the house/basement/ground floor/second floor/garage/detached garage/shed. Following the interior cleaning, the interior space was inspected and air clearance samples were collected to confirm the area was/areas were cleaned to standards established by the U.S. Environmental Protection Agency (EPA).

The detached garage/pumphouse/shed has/have been inspected to confirm that removal activities were not warranted in this structure/these structures.

Vermiculite-containing Wall Insulation

Vermiculite-containing insulation remains in the interior walls/exterior walls of the residence. Existing openings in these areas were sealed. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to access this area/these areas in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. These publications are also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Prior to removal activities, the property owner informed the U.S. Environmental Protection Agency (EPA) or an EPA representative that they planned to conduct remodeling activities involving the walls of the residence. As a result, inside wall materials such as paneling, drywall, etc., as well as vermiculite-containing wall insulation, were removed from this area and not replaced pending property owner improvements/replaced in accordance with the Contract Documents.

Vermiculite-containing Building Material

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The material was sealed with paint or an encapsulant (or equivalent). The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a friable state. The vermiculite-containing building material was removed and disposed of in accordance with the Contract Documents.

OR

Vermiculite was identified in the chimney mortar/basement pipe wrap in a non-friable state. The U.S. Environmental Protection Agency (EPA) strongly recommends that the material be left alone and not disturbed. Should it be necessary to disturb the material in the future (such as during renovation), the property owner is encouraged to refer to the guidance included in the post-cleanup completion packet. Information about Libby vermiculite is also available at the EPA Information Center (108 E. 9th Street) and online at http://www.epa.gov/region8/superfund/libby/inhome.html.

I acknowledge that I have received a copy of the Quick Response Statement of Work for the property and that the removal and restoration activities were performed as discussed and agreed upon prior to the cleanup.

_____ _____

Owner Date

Quality Control Review Sheet

Contract Name: Libby Asbestos Project

Client: USACE, Omaha District

Project Number: 213027.01

Document Type: Quick Response Removal and Restoration Completion Form

Property Owner: Name
Property Address: Address
Property ID:

Document Author

Signature: _____ _____
Kim Fox Date

Technical Reviewer

Signature: _____ _____
Michael Vasquez Date

QA Reviewer – *only required if contamination remains at property*

Signature: _____ _____
Erico Romero Date

Libby Asbestos Project
Removal Volumes

Property ID:	
Survey Date:	
Address:	
Surveyor(s):	
Contaminated Material Removed	
Estimated quantity of soil removed:	_____ cubic yards
Estimated quantity of insulation removed:	_____ cubic yards
Estimated quantity of building materials and other miscellaneous items removed:	_____ cubic yards

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop 8treet
DENVER, CO 80202-1129
http://www.epa.gov/region08

I have attended an orientation session for the High Efficiency Particulate Air (HEPA) filter vacuum that is being provided by the US EPA and understand that this vacuum belongs to the property. If I move from this property, I understand that this HEPA filter vacuum remains with the property, and shall be given to the new owner/tenant.

_____

Property Address

_____

Printed Name of Owner

_____

Signature of Owner **Date**

For office use only:

cc: **Property File**
EPA Information Center

EPA Property ID: _____